

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte GERALD W. MILLER

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Appeal No. 1999-0989  
Application No. 08/265,267

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ON BRIEF

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Before PAK, 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 12, 21 through 24 and 26 through 29, which are all the claims pending in this application.

THE INVENTION

The invention is directed to a method for the removal of organic contaminants in fluid form from a contaminated liquid. The fluid comprising the organic contaminants is

brought into contact with a blend of an elastomeric material and a thermoplastic polymer in specific proportions. The polymeric blend is present in discrete non-clumping mechanically stable geometric shapes. Additional limitations are disclosed in the following illustrative claim.

### THE CLAIM

Claim 1 is illustrative of appellant's invention and is reproduced below:

1. A method of removing organic contaminants from contaminated liquid, gas, soil in fluid form, or mixtures thereof, comprising the steps of:
  - (a) producing discrete non-clumping mechanically stable geometric shapes of a blend of elastomeric material with about 5-45% by weight thermoplastic polymer;
  - (b) providing the shapes in a loose form or packing; and
  - (c) bringing a fluid containing organic contaminants into contact with the shapes in loose form or packing so that the shapes absorb organic contaminants from the fluid.

### THE REFERENCES OF RECORD

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

Winkler	3,929,631	Dec. 30, 1975
Biron	4,061,573	Dec. 06, 1977
Sugimori et al. (Sugimori)	4,801,386	Jan. 31, 1989
Thirumalachar et al. (Thirumalachar)	4,929,341	May 29, 1990
Gabrick	5,104,548	Apr. 14, 1992
Nakano et al. (Nakano) (published Japanese Patent Application) (referred to by the examiner as Japanese Abstract No. 135702).	53-61165	Jun. 01, 1978

THE REJECTIONS

Claims 1 and 29 stand rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Gabrick.

Claims 1, 24, 27, and 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gabrick.

Claims 2, 5, 9, 12, and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gabrick in view of Winkler.

Claims 3 and 4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gabrick and Winkler in view of Sugimori.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakano in view of Gabrick.

Claims 7, 8, and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Biron in view of Gabrick.

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Thirumalachar in view of Gabrick and Biron.

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakano in view of Gabrick, Winkler and Sugimori.

Claims 23 and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable

over Biron in view of Gabrick and further in view of Winkler.

Claim 28 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Thirumalachar in view of Gabrick and Biron and further in view of Winkler.

### 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 2 through 5, 8 through 10, 12, 21 through 24, 26, 27 and 28 are not well founded. Accordingly, we reverse these rejections. We agree with the examiner that the rejection of claims 1, 6, 7, 11, and 29 are well founded. Accordingly, we affirm these rejections.

#### The Rejection under Section 102(b)

In order for a claimed invention to be anticipated under 35 U.S.C. § 102(b), all of the elements of the claim must be found in one reference. Scripps Clinic & Research Found. v. Genentech Inc., 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991). Gabrick is directed to a method for controlling and recovering oil spills from a body of water. See column 1, lines 13-15. To that end Gabrick discloses that it is an object of the invention to absorb oil from an oil slick and to convert an oil slick to a dry agglomerated powder. See column 2, lines 6-14.

We find that Gabrick discloses that oil is absorbed by the presence of an elastomeric composition comprising a block copolymer of styrene and an ethylene elastomer,

particularly ethylene butylene. See column 2, lines 22-35. We find that the elastomer is granular. See column 2, line 36. We find that Gabrick adds to the elastomeric composition an "oleochemical synthetic wax." See column 2, line 37. We find that, "[t]he synthetic waxes are long chain polymers, principally of ethylene block polymers which are available in solid particulate or powdered form." See column 2, lines 40-42. We further find that even after oil is adsorbed, the compositions form a "dry solid material which has a non-tacky and non-oily surface." Based upon these findings, we conclude that the composition of Gabrick is in the form of a "discrete non-clumping mechanically stable geometric shapes," as required by the claimed subject matter in as much as the grains and particles have geometric shapes. See column 2, lines 50-51.

We further find that, "said oleochemical synthetic wax is a linear chain ethylene polymer which has a density less than water." See claim 2 of Gabrick. Based upon the above findings, we necessarily conclude that ethylene polymer is a thermoplastic polymer as required by the claimed subject matter. Our conclusion is further supported by the specification wherein the thermoplastic polymers of the claimed subject matter include polyethylene. See specification, page 6, lines 27-29. See also Example 1, wherein a specific polyethylene is utilized which has a density of 0.952 g/cc and accordingly, falls clearly within the scope of claim 2 of Gabrick in that it has a density less than that of water. Furthermore, we find that the elastomeric polymer is present in a proportion of 99 to 67 weight percent. We further find that the oleochemical synthetic wax is present in an

amount of 1 to 33 weight percent. See column 3, lines 53-58. We further find that Example 2 of Gabrick discloses particular proportions of 15 parts by weight of Kemester oleochemical synthetic wax and 150 parts by weight of granular elastomeric gum rubber. Accordingly, the proportions disclosed by Gabrick fall within the scope of the claimed subject matter.

We further find that water containing crude oil was contacted with the composition of the claimed subject matter. See Example 2. Based upon the above findings and analysis, we conclude that the teachings of Gabrick are sufficient to sustain the anticipation rejection of claims 1 and 29.

In rebuttal to the anticipation rejection over Gabrick, appellant has submitted a KEMESTER® product sheet on July 2, 1996. We find however, that the product sheet submitted is directed to methyl esters manufactured by Humko Chemical. The Gabrick reference, upon which the rejection is based, specifically refers to a product having the same Trade name but produced by Witco Chemical Corp. The evidence submitted of record fails to show the requisite nexus between the product of Humko and Witco Chemical Corp. Moreover, even if they were shown to be the same products produced by Witco, we cannot ignore the express teachings of Gabrick both in the specification and claims directed to ethylene polymers.

Based upon the above reasons and those set forth in the Answer, we have determined that the examiner has established a prima facie case of anticipation.

The Rejection of Claims 1, 24, 27 and 29 over Gabrick

We shall also sustain the rejection of claims 1 and 29 as unpatentable over Gabrick. It is well settled that the ultimate obviousness is lack of novelty. The claims cannot have been anticipated and not have been obvious. In re Fracalossi, 681 F.2d 792, 794, 215 USPQ 569, 571 (CCPA 1982).

As to claims 24 and 27, we conclude that the disclosure of “granular elastomeric material” and the synthetic wax available in “solid particulate form,” in and of itself is insufficient to meet the requirement of claims 24 and 27. The examiner has not met the burden of showing the size or shape of the entire composition. Furthermore, the examiner has not shown that either the size or shape is a result effective variable. Accordingly, we do not sustain the rejection of claims 24 and 27.

The Rejection of Claims 2, 5, 9, 12, and 21 over Gabrick in view of Winkler

The examiner relies upon Winkler for its teaching of “removing oil from a contaminated medium with a foamed polystyrene-butadiene oil adsorbent.” See Answer, page 4. The examiner concludes that, “it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the foamed polystyrene-butadiene of Winkler for the elastomeric copolymer of the primary reference.” Id. We disagree.

We find that Winkler is directed to a composition for the recovery of oil from an aqueous surface. See Abstract and column 1, lines 6-9. We find that the compositions utilized comprise particulate expanded polystyrene and polystyrene-butadiene which is understood to be a copolymer of styrene and butadiene. We further find that in addition or instead of butadiene, ethylene, propylene, and butylene can be copolymerized with styrene. See column 2, lines 5-7. Moreover, the appellant admits on the record that the copolymers of Winkler are elastomeric. See Brief, page 11. The examiner relies upon this

finding to conclude that the substitution of the elastomer of Winkler for that of Gabrick would have been obvious. Gabrick, however, discloses a specific elastomer directed to a block copolymer of styrene, and an ethylene elastomer, particularly ethylene butylene. See Gabrick, column 2, lines 25-27. In contrast Winkler states that “[i]nstead and in addition to butadiene, ethylene, propylene and butylene can be copolymerized with styrene.” See column 2, lines 5-7. We conclude that there is no disclosure therein for the preparation of a block copolymer. Nor is there a disclosure of the particular block copolymers disclosed by Gabrick. Hence, there is no reason to substitute the polystyrene-butadiene resin of Winkler for the particular elastomers disclosed by Gabrick. Accordingly, there is no reason to combine the disclosure of Gabrick with Winkler.

Based upon these findings and analysis, the rejection of claims 2, 5, 9, 12, and 21 over Gabrick in view of Winkler is reversed.

The Rejection of Claims 3 and 4 over Gabrick and Winkler in view of Sugimori

Claims 3 and 4 depend on claim 2. We concluded supra that Winkler was not combinable with Gabrick. Sugimori is not directed to elastomeric material and accordingly, does not overcome the deficiencies of Winkler. Accordingly, we reverse the rejection of claims 3 and 4.

The Rejection of Claim 6 over Nakano in view of Gabrick

Nakano is directed to a method of treating oil containing wastewater.<sup>1</sup> We find that the wastewater is passed through a contact phase containing an oxidative substance and is subsequently contacted with a treatment material comprising organic polymers. See page 3. The oxidative substance includes ozone. See page 4. We further find that the contact with an oxidative substance eases the adsorptive removal of emulsified oil in the presence of organic polymers. Id. Accordingly, it would have been obvious to pretreat an oil contaminated fluid with ozone prior to its treatment with the composition of Gabrick for the express purpose of easing the removal of oil contaminants. The rejection of claim 6 is accordingly, sustained.

The Rejection of Claims 7, 8, and 11 over Biron in view of Gabrick

With respect to the rejection of claims 7 and 11, we find that Gabrick in and of itself discloses the utilization of a glass vessel containing an indicated amount of solid absorbent. See Examples 1 through 9. We conclude that the placement of the absorbent in a glass vessel provides the requisite column of geometric shapes in as much as at least some of the absorbent will be present atop each other in a vertical configuration through which the contaminated fluid would pass.

With respect to claim 11, we find that Example 1 of Gabrick reports an observation that, “[t]he seawater after separation of the solid absorbent was clear and exhibited no

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<sup>1</sup>All references to the Nakano Patent are directed to an English language translation thereof provided to the USPTO in June 2001.

residue of the crude oil.” Furthermore in Example 2, of Gabrick, it is stated that, the surface of the water after removal of the solid absorbent appeared to be cleaner than that observed in Example 1. In contrast, the proportions of contaminants to be removed in the claimed subject matter require the removal of, “at least about 90% of the organic contaminants.” We conclude that the proportion set forth in the claimed subject matter can readily be obtained by one of ordinary skill in the art, particularly in view of the teachings of Gabrick supra and as such are result effective variables. It is well settled that discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. See In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980); In re Antonie, 559 F.2d 618, 620, 195 USPQ 6, 8-9 (CCPA 1977); and In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Accordingly, we conclude that the requisite amounts of organic contaminants have been removed by Gabrick as required by the subject matter of claim 11.

Moreover, we do not consider the rejections over Gabrick alone in the absence of the reference to Biron to constitute a "new ground" of rejection. The issue, in this respect, is whether the 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).

As to claim 8 however, there is no teaching or suggestion of replacing the geometric shapes in the column once saturated with organic contaminants. Accordingly, we do not sustain the rejection over claim 8.

The Rejection of Claim 10 over Thirumalachar in view of Gabrick and Biron

As stated by the examiner, “Thirumalachar et al[.] discloses flooding soil with water in order to extract oil therefrom, and subsequently separating oil from the resultant mixture.” See Answer, page 6. We further find that the presence of a lipophilic solvent is required by Thirumalachar. See Abstract, column 4, lines 15-32. Gabrick however, the only reference directed to the composition of the claimed subject matter, is directed to the separation of oil from water in the absence of soil, and in the absence of a lipophilic solvent. In addition, the thrust of Thirumalachar is to produce oil from oil bearing soil, wherein the oil is not a contaminant. We see no reason to combine the references to Thirumalachar and Gabrick, wherein each is directed to a different process. Accordingly, we do not sustain the rejection of claim 10.

The Rejections of Claims 22, 23, 26, and 28

As to the balance of the rejections, each of the claims in this group is directly or ultimately dependent upon claim 2, which rejection we did not sustain. Furthermore, none of the additional references relied upon by the examiner in three separate rejections over one or more of the aforesaid claims, i.e., Nakano, Sugimori, Biron, or Thirumalachar, eliminates the deficiencies of the rejection of claim 2 over Gabrick in view of Winkler. Accordingly, we do not sustain any of the above rejections.

DECISION

The rejection of claims 1 and 29 under 35 U.S.C. § 102(b) as being clearly

anticipated by Gabrick is affirmed.

The rejection of claims 1 and 29 under 35 U.S.C. § 103(a) as being unpatentable over Gabrick is affirmed.

The rejection of claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Nakano in view of Gabrick is affirmed.

The rejection of claims 24 and 27 under 35 U.S.C. § 103(a) as being unpatentable over Gabrick is reversed.

The rejection of claims 2, 5, 9, 12, and 21 under 35 U.S.C. § 103(a) as being unpatentable over Gabrick in view of Winkler is reversed.

The rejection of claims 3 and 4 under 35 U.S.C. § 103(a) as being unpatentable over Gabrick and Winkler in view of Sugimori is reversed.

The rejection of claims 7 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Biron in view of Gabrick is affirmed.

The rejection of claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Biron in view of Gabrick is reversed.

The rejection of claim 10 under 35 U.S.C. § 103(a) as being unpatentable over Thirumalachar in view of Gabrick and Biron is reversed.

The rejection of claim 22 under 35 U.S.C. § 103(a) as being unpatentable over Nakano in view of Gabrick, Winkler, and Sugimori is reversed.

The rejection of claims 23 and 26 under 35 U.S.C. § 103(a) as being unpatentable over Biron in view of Gabrick and further in view of Winkler is reversed.

The rejection of claim 28 under 35 U.S.C. § 103(a) as being unpatentable over Thirumalachar in view of Gabrick and Biron and further in view of Winkler is reversed.

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

CHUNG K. PAK	)	
Administrative Patent Judge	)	
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	)	BOARD OF PATENT
THOMAS A. WALTZ	)	APPEALS
Administrative Patent Judge	)	AND
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Administrative Patent Judge	)	

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Appeal No. 1999-0989  
Application No. 08/265,267

16

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