

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. 37

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SAMUEL T. GOUGE,
LEONARD E. HODAKOWSKI,
PAUL J. WEBER,
and
CHI-YU R. CHEN

Appeal No. 1997-1281
Application No. 08/317,830

ON BRIEF

Before KIMLIN, PAK, and DELMENDO, **Administrative Patent Judges.**
PAK, **Administrative Patent Judge.**

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1, 2, 20, 28 through 35,

Appeal No. 1997-1281
Application No. 08/317,830

APPEALED SUBJECT MATTER

Claim 1 is representative of the subject matter on appeal and reads as follows:

1. A water dispersible or water soluble organic gel which is a continuous system comprising:

an agrochemical selected from a plant protection agent, plant growth regulators, plant nutrients, fungicides, herbicides, insecticides and nematicides,

1 to 50% of a water soluble or water dispersible surfactant which contains a nonionic surfactant and optionally an anionic surfactant, and which is able to form above 70°C, a liquid phase with the agrochemical,

0.1 to 50% of a gelling agent which is, at 23°C, either a solid having a particle size less than 100 microns or a liquid and which is soluble in the liquid mixture of agrochemical and surfactant above 70°C, and less than 3% by weight of water.

The specification defines the claimed continuous system, gel, and gelling agent as follows (pages 7, 8, and 9):

By the wording continuous system, it is meant a material which is visually homogeneous, that is to say which has the visual appearance to have only one physical phase; this does not exclude the possibility to have small solid particles dispersed therein, provided these particles are small enough not to constitute a visible separate physical phase.

Appeal No. 1997-1281
Application No. 08/317,830

be in a soluble form, or in a dispersed form such as in a suspension

. . . .

By the wording "gelling agent", it is meant a material corresponding to the active ingredient in such a way that, when mixed, at 50/50 w/w and 25°C, with (and optionally ground with) an organic solvent wherein the active ingredient is soluble, a gel is obtainable. According to the present invention, a gel is essentially a material which has a phase difference ϕ between the controlled shear stress and the resulting shear strain such that $\tan(\phi)$ is less than or equal to 1.5, preferably less than or equal to 1.2. $\tan(\phi)$ is the tangent of the angle ϕ (or phase difference). The measurement of ϕ is made by means of a rheometer having a flat fixed plate and a rotating cone above this plate such as the angle between them is less than 10°, preferably 4°. The cone is caused to rotate by means of a controlled speed motor; the rotation is a sinusoidal one, i.e., the torque and the angular displacement change as a sine function with time. This angular displacement corresponds to the hereabove mentioned shear strain; the torque of the controlled speed motor (which causes the angular displacement corresponds to the hereabove mentioned controlled shear stress.

Gelling agents which may be used in the invention are tetramethyl decyne diol, ethoxylated dialkylphenol, methylated clay, propylene carbonate, hydrogenated castor oil, ethoxylated vegetable oil, diatomaceous earth, mixture of dioctyl sodium sulfosuccinate and sodium benzoate, and mixtures of hexanediol and hexynediol.

Appeal No. 1997-1281
Application No. 08/317,830

PRIOR ART

In support of his rejections, the examiner relies on the following prior art references:

Loder	2,870,058	Jan. 20, 1959
Albert	3,892,905	Jul. 1, 1975
Hodakowski et al. (Hodak '226)	5,080,226	Jan. 14, 1992 (Filed Jul. 18, 1990)
Hodakowski et al. (Hodak '152)	5,139,152	Aug. 18, 1992 (Filed Jul. 18, 1990)
Edwards et al. (Edwards '242)	5,429,242	Jul. 4, 1995 (Filed Jul. 18, 1990)
Kaufmann et al. (Kaufmann) (Published European Patent Application)	EP 0 234 867 A2	Sep. 2, 1987
Hobbs (Published European Patent Application)	EP 0 317 260 A2	May 24, 1989
Taruzaki ¹ (Published Japanese Kokai Patent Application)	55-4336	Jan. 12, 1980
Edwards et al. (Edwards '587) (Published World Intell. Prop. Org. Application)	WO 89/12587	Dec. 28, 1989

REJECTION

The appealed claims stand rejected as follows:²

¹ Our reference to the published Japanese application is to

Appeal No. 1997-1281
Application No. 08/317,830

1) Claims 1, 2, 20, 28 through 35, 38 through 39, 41, 42, 47, 50 through 53, 56, 57, 59, 60 and 65 through 74 under the judicially created doctrine of obviousness-type double patenting as unpatentable over the claims of Hodak '226, Hodak '152 and Edwards '242;

2) Claims 1, 2, 20, 32 through 35, 38, 39, 41, 42, 47, 50 through 53, 56, 57, 59, 60, 65 and 69 through 73 under 35 U.S.C. § 103 as unpatentable over the disclosure of Taruzaki;

3) Claims 65 through 71 under 35 U.S.C. § 103 as unpatentable over the combined disclosures of Taruzaki, Kaufmann, and Albert;

4) Claims 28 through 31 under 35 U.S.C. § 103 as unpatentable over the combined disclosures of Taruzaki and Edwards '587;

5) Claims 1, 2, 32 through 35, 38, 39, 41, 42 and 72 through 74 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103 as obvious over the disclosure of Loder; and

6) Claims 1, 2, 32 through 35, 38, 39, 41, 42 and 72 through 74 under 35 U.S.C. § 103 as unpatentable over the disclosure of

Appeal No. 1997-1281
Application No. 08/317,830

OPINION

We have carefully reviewed the claims, specification, and applied prior art, including all of the arguments advanced by both the examiner and appellants in support of their respective positions. This review leads us to conclude that only the examiner's rejections under 35 U.S.C. § 103 and the doctrine of obviousness-type double patenting are well founded. Accordingly, we reverse the examiner's § 102 rejection based on Loder, but affirm all of the aforementioned § 103 rejections and obviousness-type double patenting rejection for essentially those reasons set forth in the Answer. We add the following primarily for emphasis and completeness.

OBVIOUSNESS-TYPE DOUBLE PATENTING

The examiner has rejected claims 1, 2, 20, 28 through 35, 38 through 39, 41, 42, 47, 50 through 53, 56, 57, 59, 60 and 65 through 74 under the judicially created doctrine of obviousness-type double patenting as unpatentable over the claims of Hodak '226, Hodak '152 and Edwards '242. As stated by our reviewing

Appeal No. 1997-1281
Application No. 08/317,830

issuance of claims in a second patent which are not "patentably distinct" from the claims of a first patent. See *In re Longi*, 759 F.2d 887, 892, 225 USPQ 645, 648 (Fed. Cir. 1985). The doctrine has also been phrased as prohibiting claims in the second patent which define "merely an obvious variation" of an invention claimed in the first patent. *In re Vogel*, 422 F.2d 438, 441, 164 USPQ 619, 622 (CCPA 1970). [Emphasis in original.]

Thus, the threshold issue to be determined here is whether the subject matter on appeal as represented by claim 1 is patentably distinct from (or an obvious variation of) the claims of Hodak '226, Hodak '152, and Edwards '242. Our review indicates that the claims of Hodak '226, Hodak '152, and Edwards '242 would have rendered the subject matter on appeal obvious to one of ordinary skill in the art. Specifically, we find that Hodak '152 recites a "water dispersible or water soluble organic gel which is a continuous system" containing an effective amount of a hazardous material, 5 to 95% of a water soluble or water dispersible surfactant and 0.1 to 50% of a gelling agent. See columns 13 and 14, claim 1, in conjunction with columns 15 and 16, claims 15 and 30. The water soluble or water dispersible surfactant may be a

Appeal No. 1997-1281
Application No. 08/317,830

particle size less than 100 microns or liquid and is soluble in the liquid mixture of hazardous material and surfactant above 50°C and contains less than 3% by weight of water. See column 14, claim 1. The hazardous material is an agrochemical. See column 14, claim 4. Hodak '226 recites that the agrochemical includes a pesticide or a plant protecting agent. See column 11, claim 2.

Given that the water dispersible or water soluble organic gel recited in Hodak '152 is not only inclusive, but also suggestive, of the subject matter on appeal, we conclude that the subject matter on appeal would have been obvious over the claims of Hodak '152, Hodak '226 and Edwards '242. Thus, we affirm the examiner's rejection of claims 1, 2, 20, 28 through 35, 38 through 39, 41, 42, 47, 50 through 53, 56, 57, 59, 60 and 65 through 74 under the judicially created doctrine of obviousness-type double patenting as unpatentable over the claims of Hodak '226, Hodak '152 and Edwards '242.

35 U.S.C. § 103 BASED ON TARUZAKI

Appeal No. 1997-1281
Application No. 08/317,830

that Taruzaki describes in its examples forming a solid or pasty emulsion composition comprising a mixture of an agricultural chemical, such as a pesticide or a fungicide, an emulsifier (surfactant), such as polyoxyalkylene, aryl ether, polyoxyalkylene alkyl ether or alkyl benzene sulfonate, and saccharide powder (gelling agent) via a portable kneader. See also Taruzaki, pages 12-14, together with Taruzaki, pages 7 and 8.

Appellants do not argue that Taruzaki does not teach or suggest the claimed agrochemical material and surfactant. See Brief, pages 12-13. Rather, appellants argue that Taruzaki does not teach or suggest the claimed gelling agent. See Brief, page 12 and Reply Brief, page 3. However, we are not persuaded by this argument.

We find that Taruzaki teaches that "saccharides act as a protective colloid in addition to their effect as a thickener or a binder" See pages 7 and 8. Thus, we determine that the saccharide powder described in Taruzaki is a gelling agent.

Appeal No. 1997-1281
Application No. 08/317,830

than 100 microns. Thus, we agree with the examiner that Taruzaki would have suggested the claimed gelling agent.

Appellants also argue that the claimed organic gel is not taught or would have been suggested by the disclosure of Taruzaki. This argument, however, is not well founded. Since Taruzaki's solid or pasty solid is formed by mixing ingredients which are identical or substantially identical to those claimed with a kneader in the presence of an organic solvent as indicated by the examiner, we agree with the examiner's finding that Taruzaki's solid or pasty solid is necessarily the claimed organic gel.³

In view of the foregoing, we affirm the examiner's rejection of claims 1, 2, 20, 32 through 35, 38, 39, 41, 42, 47, 50 through 53, 56, 57, 59, 60, 65 and 69 through 73 under 35 U.S.C. § 103 as unpatentable over the disclosure of Taruzaki.

35 U.S.C. § 103 BASED ON TARUZAKI, KAUFMANN, AND ALBERT

The examiner has rejected claims 65 through 71 under 35 U.S.C. § 103 as unpatentable over the combined disclosures of

Appeal No. 1997-1281
Application No. 08/317,830

Taruzaki, Kaufmann, and Albert. The examiner determines that it would have been obvious to employ the packaging material described in Kaufmann or Albert as the packaging material for the organic gel described in Taruzaki. Appellants have not disputed this determination. See Brief, page 13. What appellants dispute is that Taruzaki does not teach or would not have suggested the claimed organic gel. *Id.* For the reasons indicated *supra*, we find that Taruzaki's solid or pasty solid is necessarily the claimed organic gel. Accordingly, we affirm the examiner's § 103 rejection of claims 65 through 71 over the combined disclosures of Taruzaki, Kaufmann, and Albert.

35 U.S.C. § 103 BASED ON TARUZAKI AND EDWARDS '587

The examiner has rejected claims 28 through 31 under 35 U.S.C. § 103 as unpatentable over the combined disclosures of Taruzaki and Edwards '587. The examiner finds, and appellants do not dispute, that Taruzaki teaches that its solid or pasty solid may be hermetically packaged in bags made of a water-insoluble film. Compare Answer page 5, with Brief and Reply Brief in their

Appeal No. 1997-1281
Application No. 08/317,830

and appellants do not dispute, that:⁴

Edwards (page 1) discloses water soluble packaging systems for harmful chemicals including pesticides and herbicides. Edwards (paragraph bridging pages 5 and 6) teaches the packages are preferably only partially full comprising an air space of 2 to 40 %, preferably 4 to 10 %, of the volume of the package. Edwards teaches partial filling of the package reduces the risk of rupture and leakage due to shock and increased temperature.

The bags described in Edwards are identical or substantially identical to those described in Taruzaki.

Given the above factual circumstances, we agree with the examiner that one of ordinary skill in the art would have been led to partially⁵ fill the water-soluble bag of the type described in Taruzaki with its solid or pasty solid, either motivated by a desire to avoid the risk of rupturing or causing leakage of the water soluble bag, or motivated by a desire to provide the desired amount of an agrochemical material in the water soluble bag.

In reaching this conclusion, we have taken into account the disclosure of Edwards '587, which teaches packaging "solid chemicals in water soluble containers but such containers are

Appeal No. 1997-1281
Application No. 08/317,830

normally full and no particular difficulties arise in their production or in their use [emphasis added]." See pages 2 and 3. We find that Edwards '587 does not foreclose one of ordinary skill in the art from partially filling the water soluble bags with the solid or pasty solid described in Taruzaki. One of ordinary skill in the art would have been necessarily led to partially fill the water soluble bags with the solid or pasty solid described in Taruzaki based on the size of the bags and the size of land or crop to be treated. Moreover, we determine that the wet solid of the type described in Taruzaki, which is much heavier than dry solid, is reasonably expected to be more susceptible than dry solid, but less susceptible than liquid, in increasing the risk of the rupture or leakage mentioned in Edwards '587. To minimize the risk of such potential problems, one of ordinary skill in the art would have been led to partially fill the water soluble bags with the wet solid described in Taruzaki, i.e., to at least less than 99% of capacity.

In view of the foregoing, we affirm the examiner's § 103

Appeal No. 1997-1281
Application No. 08/317,830

35 U.S.C. §§ 102 and 103 BASED ON LODER

The examiner has rejected claims 1, 2, 32 through 35, 38, 39, 41, 42 and 72 through 74 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103 as obvious over the disclosure of Loder. Appellants do not dispute that Loder teaches a thixotropic fungicidal suspension containing the claimed surfactant and agrochemical. As correctly argued by appellants (brief, page 16), the thixotropic fungicidal suspension itself is not a gel. See also the specification, page 4. However, the examiner finds, and appellants do not dispute, that Loder specifically teaches using the claimed gelling agents in the thixotropic fungicidal composition described in Loder. Compare Answer, pages 7 and 8, with the Brief and Reply Brief in their entirety. We find that Loder teaches employing such gelling agents in a thixotropic fungicidal composition to "improve storage stability of the composition." See column 2, lines 3-9. Therefore, we determine that Loder would have suggested to one of ordinary skill in the art to form a

Appeal No. 1997-1281
Application No. 08/317,830

2, 32 through 35, 38, 39, 41, 42 and 72 through 74 based on the disclosure of Loder.

35 U.S.C. § 103 BASED ON HOBBS

The examiner has rejected claims 1, 2, 32 through 35, 38, 39, 41, 42 and 72 through 74 under 35 U.S.C. § 103 as unpatentable over the disclosure of Hobbs. We agree with appellants that the solid matrix composition described in Hobbs is not the claimed gel. However, we agree with the examiner that Hobbs provides an alternative embodiment in which the solid matrix composition can be altered to provide a more transportable composition. See page 12, lines 35-53. We agree with the examiner that the claimed organic gel embraces this more transportable composition suggested by Hobbs since the more transportable composition contains the same ingredients as those claimed and has a viscosity not reflective of solid. Accordingly, we adopt the examiner's finding at pages 8 and 9 of the Answer as our own and affirm the examiner's § 103 rejection of claims 1, 2, 32 through 35, 38, 39, 41, 42 and 72 through 74

Appeal No. 1997-1281
Application No. 08/317,830

OTHER ISSUES

In the event of further prosecution of the claimed subject matter, the examiner is advised to obtain English translations of published Japanese Patent Application 47001800 referred to in the Derwent Abstract and published Japanese Patent Application 2192301 A in the Chemical Abstract, both of which are cited in Parent Application 07/680,307, and determine whether they affect the patentability of the claimed subject matter.

CONCLUSION

In view of the foregoing, we affirm the decision of the examiner rejecting all of the appealed claims under 35 U.S.C. § 103 and the doctrine of obviousness-type double patenting.

Appeal No. 1997-1281
Application No. 08/317,830

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

AFFIRMED

EDWARD C. KIMLIN)	
Administrative Patent Judge)	
)	
)	
CHUNG K. PAK)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
ROMULO H. DELMENDO)	
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CKP:hh

Appeal No. 1997-1281
Application No. 08/317,830

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