

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT T. LYONS, CHIN-MING CHANG, JOAN-EN
CHANG-LIN, JAMES CHANGE and OREST OLEJNIK¹

Appeal 2008-5416
Application 10/826,843
Technology Center 1600

Decided: December 4, 2008

Before JAMES T. MOORE, *Vice Chief Administrative Patent Judge*, and
RICHARD E. SCHAFER and RICHARD TORCZON, *Administrative
Patent Judges*.

Opinion for the Board filed by *Vice Chief Administrative Patent Judge*,
MOORE, joined by *Administrative Patent Judge*, SCHAFER.

Opinion Concurring, filed by *Administrative Patent Judge*, TORCZON.

MOORE, *Vice Chief Administrative Patent Judge*.

¹ The real party in interest is Allergan, Inc. (App. Br. 1).

DECISION ON APPEAL

1 STATEMENT OF CASE

2 The Appellants appeal under 35 U.S.C. § 134 (2002) from a final
3 rejection of claims 1-19, 21-23 and 26.² We have jurisdiction under
4 35 U.S.C. § 6 (b) (2002).

5 The Appellants' claims are directed to medicating the interior of the
6 eye using a medicament and a cyclodextrin as a carrier.

7 Claims 1 and 19 are the only independent claims in the application.
8 The Appellants do not argue any claims separately regarding the enablement
9 or anticipation rejections. Therefore, we select independent claim 1, the
10 method claim, to decide the appeal regarding these rejections. See 37 C.F.R.
11 § 41.37(c)(1)(vii) (2006).

12 For the obviousness rejection, the Appellants argue claims 16-18
13 together. Claim 16 is representative, and the remaining claims stand or fall
14 with claim 16.

15 Claim 1 reads as follows:

- 16 1. A method comprising topically administering a
17 composition to an eye of a mammal in need thereof, said
18 method being effective in delivering a therapeutically effective
19 amount of a therapeutically active agent to a structure or
20 combination of structures of the eye selected from the vitreous
21 humor and structures posterior to the vitreous humor; said
22 composition comprising;
- 23 a. an effective amount of the therapeutically active agent,
24 or a pharmaceutically acceptable salt or prodrug
25 thereof, to provide a therapeutically effective amount

² Claims 20, 24, 25, and 27 have been canceled. (App. Br. 2).

1 of the therapeutically active agent to said structure or
2 combination of structures of the eye, and
3 b. an effective amount of a cyclodextrin derivative to
4 provide said therapeutically effective amount of said
5 therapeutically active agent to said structure or
6 combination of structures of the eye[,]

7 wherein the cyclodextrin derivative is selected from the group
8 consisting of hydroxypropyl- β -cyclodextrin, hydroxypropyl- γ -
9 cyclodextrin, sulfobutylether- β -cyclodextrin and
10 sulfobutylether- γ -cyclodextrin, hydroxyethyl- β -cyclodextrin,
11 hydroxyethyl- γ -cyclodextrin, dihydroxypropyl- β -cyclodextrin,
12 glucosyl- β -cyclodextrin, diglucosyl- β -cyclodextrin, maltosyl- β -
13 cyclodextrin, maltosyl- γ -cyclodextrin, maltotriosyl- β -
14 cyclodextrin, maltotriosyl- γ -cyclodextrin, dimaltosyl- β -
15 cyclodextrin, and combinations thereof.

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17 (App. Br. 10, Claims Appendix).

18
19 Claim 5, from which claim 16 depends, reads as follows:

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21 5. The method of claim 1 wherein said therapeutically
22 active agent is not administered to reduce intraocular pressure.

23
24 Claim 16 reads as follows:

25
26 16. The method of claim 5 which further comprises
27 hydroxypropylmethylcellulose having a concentration of less
28 than 1%.

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30 (App. Br. 11, Claims Appendix).

31
32 THE EVIDENCE

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34 The Examiner relies upon the following as evidence in support of the
35 rejections:

36	Loftsson	US 5,472,954	Dec. 05, 1995
37	Guy	US 5,576,311	Nov. 19, 1996

1 Lyons WO 02/089815 A2 Nov. 14, 2002

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THE REJECTIONS

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The following rejections are before us for review:

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1. Claims 1-19, 21-23 and 26 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

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2. Claims 1-15, 19, 21-23 and 26 stand rejected as being anticipated under 35 U.S.C. § 102(b) over Guy.

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3. Claims 1-19, 21-23 and 26 stand rejected as being anticipated under 35 U.S.C. § 102(b) over Lyons.

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4. Claims 16-18 stand rejected as being obvious under 35 U.S.C. § 103(a) over the combination of Guy and Loftsson.

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We REVERSE the enablement rejection of claims 1-19, 21-23 and 26; AFFIRM the anticipation rejections of claims 1-19, 21-23 and 26; and AFFIRM the obviousness rejection of claims 16-18.

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ISSUES

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Have the Appellants established that the Examiner erred in determining that the specification does not provide sufficient guidelines to enable of one of ordinary skill in the art to know, without undue experimentation, which therapeutically active agents may be administered by the claimed method?

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Have the Appellants established that the Examiner erred in determining that the prior art anticipated a method of topically administering a known topical ophthalmic composition to structures of the eye in or posterior to the vitreous humor?

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1 7. Guy describes that the cyclodextrin component can be methyl
2 cyclodextrin, glucosyl cyclodextrin, maltosyl cyclodextrin, multiple
3 derivative forms of these cyclodextrins, hydroxypropyl cyclodextrin, beta-
4 hydroxypropyl cyclodextrin, beta cyclodextrin or hydroxyethyl cyclodextrin.
5 (Id. 4:1-4; 5:6-9; Table 2).

6 8. Lyons describes methods and ophthalmic compositions for the
7 topical delivery of lipophilic drugs to the eye. (Lyons pp. 9-11).

8 9. Lyons describes that its ophthalmic compositions comprise a
9 therapeutically effective amount of an active drug, such as antibiotics,
10 steroids, e.g., prednisolone, and nonsteroidal anti-inflammatory drugs. (Id.
11 10-11).

12 10. Lyons describes that its ophthalmic compositions also comprise
13 cyclodextrins selected from naturally occurring cyclodextrins or their
14 synthetic derivatives that are, “without limitation, formed by alkylation (e.g.
15 methyl- and ethyl- β -cyclodextrin) or hydroxyalkylation of the hydroxyl
16 groups (e.g. hydroxypropyl- and hydroxyethyl –derivatives of α -, β -, and γ -
17 cyclodextrin) or by substituting the primary hydroxy groups with
18 saccharides (e.g. glucosyl- and maltosyl- β -cyclodextrin).” (Id. 12).

19 11. Lyons also describes that its ophthalmic composition comprises a
20 water soluble polymer such as hydroxypropylmethylcellulose (HPMC)
21 (Id. 10).

22 12. Loftsson describes a method of enhancing the solubilizing and
23 stabilizing effects of cyclodextrin derivatives in cyclodextrin-drug
24 complexes by adding certain polymers. (Loftsson 1:12-15).

1 that simply overlaps a disclosed range.” *In re Peterson*, 315 F.3d 1325,
2 1329-1330 (Fed. Cir. 2003).

3 Moreover, when “the claimed ranges are completely encompassed by
4 the prior art, the conclusion is even more compelling than in cases of mere
5 overlap.” *Id at 1330*.

6 ANALYSIS

7 I. The Enablement Rejection.

8 Claims 1-19, 21-23 and 26 stand rejected under 35 U.S.C. § 112, first
9 paragraph, as failing to comply with the enablement requirement.

10 The Examiner found that “the specification, while being enabling for
11 some agents, does not reasonably provide enablement for the broad phrase
12 of ‘an agent.’” (Non-Final Rejection, Nov. 30, 2006, p. 2, incorporated by
13 reference in Final Rejection, May 9, 2007, p. 2). In consideration of the
14 factors set for in *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988), the
15 Examiner particularly found that one of ordinary skill in the art would be
16 burdened with undue experimentation to determine all agents in combination
17 with cyclodextrin derivatives being capable of delivery to the eye. (Id. 2-3).

18 The Appellants assert that the Examiner’s enablement rejection was
19 erroneous because “[t]he specification cites about 400 different examples of
20 therapeutically active agents.” (App. Br. 4) (citing Specification p. 6, ll. 22
21 to p. 15, ll. 15). The Appellants also assert that the specification
22 demonstrates that cyclodextrin and its derivatives deliver the active agent
23 prednisolone to the back of the eye. (Id.). The Appellants further assert that
24 “known literature provides ample guidance to a person of ordinary skill to

1 determine which compounds are likely to work in the claimed methods.”
2 (Id. at 5).

3 We agree that the Appellants’ claims are enabled by the specification.
4 As the court in *Martin v. Johnson*, 454 F.2d 746, [751](#) (1972) (citations
5 omitted) stated:

6 To satisfy §112, the specification disclosure must be
7 sufficiently complete to enable one of ordinary skill in the art to
8 make the invention without undue experimentation, although
9 the need for a minimum amount of experimentation is not fatal.
10 . . . Enablement is the criterion, and every detail need not be set
11 forth in the written specification if the skill in the art is such
12 that the disclosure enables one to make the invention.

13
14 The specification describes that “the use of cyclodextrins in
15 pharmaceutical compositions is well known in the art.” (Specification p. 3,
16 ll. 7-8). The specification also describes that “[t]he use of cyclodextrin and
17 cyclodextrin derivatives in ophthalmic formulations is also known.” (Id.
18 p. 3. ll. 20-21). Further, as the Appellants have asserted, the specification
19 provides numerous examples of therapeutically active agents. (Id. pp. 6-7).

20 The Examiner has not provided sufficient reasoning as to why one
21 skilled in the art of ophthalmic pharmaceuticals would not be able to
22 determine without undue experimentation which ophthalmic agents would
23 work in the claimed method. The Examiner has therefore not satisfied the
24 initial burden of providing reasoning which would substantiate a rejection
25 based on lack of enablement.

26 Consequently, we reverse the Examiner's rejection of claims 1-19, 21-
27 23 and 26 under 35 U.S.C. 112, first paragraph, as failing to comply with the
28 enablement requirement.

1 II. The Anticipation Rejections.

2 Claims 1-15, 19, 21-23 and 26 stand rejected as being anticipated
3 under 35 U.S.C. § 102(b) over Guy. The Examiner found that Guy teaches
4 the use of the claimed cyclodextrin derivatives, e.g., hydroxypropyl
5 cyclodextrin, in combination with a therapeutically active agent, e.g.,
6 prednisolone acetate, in an ophthalmic/pharmaceutical formulation for the
7 treatment of ophthalmic disorders. (Non-Final Rejection, June 29, 2006,
8 p. 2, incorporated by reference in Final Rejection, May 9, 2007, p. 2) (citing
9 1:38-65, 2:55, 3:1-10, 3:30-37, 4:1-15).

10 The Examiner additionally rejected claims 1-19, 21-23 and 26 as
11 being anticipated under 35 U.S.C. § 102(b) over Lyons. For this rejection,
12 the Examiner similarly found that Lyons teaches the use of the claimed
13 cyclodextrin derivatives in combination with prednisolone acetate and
14 additionally with HPMC (as recited in Appellants' claims 16-18) in an
15 ophthalmic formulation for the delivery to the eye. (Non-Final Rejection,
16 Nov. 30, 2006, p. 4, incorporated by reference in Final Rejection, May 9,
17 2007, p. 2) (citing Lyons p. 10, ll. 8-13, p. 12, ll. 11-26 and p. 14 Table).

18 The Appellants do not dispute the Examiner's finding that Guy and
19 Lyons each disclose the components of the composition recited in the
20 Appellants' respective claims. Nor do the Appellants dispute the finding
21 that each reference describes that their compositions are administered
22 topically to the eye. Rather, as to both rejections, the Appellants assert that
23 the claims are not anticipated because "[n]either of the references teaches
24 administration of the composition *for the purpose of delivering the drugs to*

1 *the particular structures of the eye cited in the claims.*” (App. Br. 7)
2 (emphasis added).

3 This argument is not persuasive. It is not in dispute that the claimed
4 composition of claim 1 has been applied to the eye for therapeutic purposes
5 in the cited prior art. The claimed method of delivering a composition to
6 structures of the eye in or posterior to the vitreous humor is, at best, a
7 different intended use of a previously known topical ophthalmic composition
8 which inherently functioned in the same way as now claimed. As the
9 Federal Circuit has stated, “The discovery of a new property or use of a
10 previously known composition, even when that property and use are
11 unobvious from the prior art, can not impart patentability to claims to the
12 known composition.” *In re Spada*, 911 F.2d 705, 708 (Fed. Cir. 1990).

13 Consequently, we find that the Appellants have not established that
14 the Examiner erred in (a) rejecting claims 1-15, 19, 21-23 and 26 as being
15 anticipated by Guy, and (b) rejecting claims 1-19, 21-23 and 26 as being
16 anticipated by Lyons.

17 III. The Obviousness Rejection.

18 Claims 16-18 stand rejected as being obvious under 35 U.S.C.
19 § 103(a) over the combination of Guy and Loftsson.

20 Representative claim 16 reads as follows:

21 16. The method of claim 5 which further comprises
22 hydroxypropylmethylcellulose having a concentration less than
23 1%.
24

25 Claim 5 reads as follows:

26 5. The method of claim 1 wherein said therapeutically
27 active agent is not administered to reduce intraocular pressure.

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2 The Examiner found that Guy differs from the claimed invention
3 because Guy does not describe using HPMC in the ophthalmic composition.
4 (Non-Final Rejection, June 29, 2006, p. 2, incorporated by reference in Final
5 Rejection, May 9, 2007, p. 3). However, the Examiner found that Loftsson
6 teaches the use of the claimed HPMC in combination with the claimed
7 cyclodextrin and a therapeutically active agent, e.g., steroid, in an
8 ophthalmic formulation. (Id.).

9 According to the Examiner, it would have been obvious to a person of
10 ordinary skill in the art to incorporate HPMC into the teaching of the
11 primary reference because Loftsson describes that addition of HPMC to the
12 claimed cyclodextrin well known in the art. (Id.). The Examiner also found
13 that one skilled in the art would have been motivated to combine the
14 teachings of the references because references represent analogous art of
15 cyclodextrin-containing ophthalmic formulations. (Id. at 4). The Examiner
16 further found that the Appellants did not present evidence to establish the
17 unexpected or unobvious nature of the claimed invention. (Id.).

18 Here again, the Appellants assert that the Examiner's rejection is
19 erroneous because "[u]sing cyclodextrin derivatives to deliver drugs to the
20 back of the eye is not taught or suggested in the prior art." (App. Br. 7).
21 The Appellants additionally assert that the Examiner failed to explain how
22 the prior art composition is used "in such a way that a therapeutically
23 effective amount of the required drug would be delivered to the back of the
24 eye structure." (Id.).

1 These arguments are unpersuasive. The Examiner found that Guy
2 teaches the use of the claimed cyclodextrin derivatives with a therapeutically
3 active agent, e.g., prednisolone acetate, in a topical ophthalmic
4 pharmaceutical formulation. Additionally, the Examiner found that Loftsson
5 describes adding HPMC to an ophthalmic composition comprising a
6 cyclodextrin and therapeutically active agent. The Examiner further found
7 that the combination of Loftsson's HPMC with Guy's topical ophthalmic
8 composition would have been obvious to one skilled in the art at the time of
9 the invention because the combination of HPMC with cyclodextrin
10 compositions was well known in the art and the references represent
11 analogous art. Additionally, Loftsson describes that adding HPMC to a
12 cyclodextrin-containing ophthalmic compositions enhances the solubilizing
13 and stabilizing effects of cyclodextrin. (Loftsson 1:12-15). The Appellant
14 has not challenged these findings.

15 Loftsson also describes the polymer (HPMC) comprises 0.001-5%,
16 preferably from about 0.01 to about 0.5% of the composition (Id. 4:21-30).
17 This disclosed range encompasses the concentration described by claim 16,
18 i.e., "less than 1%." As the Federal Circuit has affirmed, "Selecting a
19 narrow range from within a somewhat broader range disclosed in a prior art
20 reference is no less obvious than identifying a range that simply overlaps a
21 disclosed range." *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003).
22 Moreover, when "the claimed ranges are completely encompassed by the
23 prior art, the conclusion is even more compelling than in cases of mere
24 overlap." *Id.*

1 experimentation, which therapeutically active agents may be administered
2 by the claimed method.

3 **DECISION**

4 The Rejection of claims 1-19, 21-23 and 26 under 35 U.S.C. § 112,
5 first paragraph, as being unpatentable for failing to comply with the
6 enablement requirement is REVERSED.

7 The Rejection of claims 1-15, 19, 21-23 and 26 under 35 U.S.C. §
8 102(b) as being unpatentable over Guy is AFFIRMED.

9 The Rejection of claims 1-19, 21-23 and 26 under 35 U.S.C. § 102(b)
10 as being as being unpatentable over Lyons is AFFIRMED.

11 The Rejection of claims 16-18 under 35 U.S.C. § 103(a) as being
12 unpatentable over the combination of Guy and Loftsson is AFFIRMED.

13 No time period for taking any subsequent action in connection with
14 this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2006).

15

16 **AFFIRMED**

1 TORCZON, Administrative Patent Judge, concurring.

2 I join the majority in affirming the anticipation and obviousness
3 rejections. I would not reach the enablement rejection. *Cf. Leggett & Platt,*
4 *Inc. v. VUTEk*, 537 F.3d 1349, 1356 (Fed. Cir. 2008) (not reaching § 112
5 issue after affirming anticipation and obviousness grounds of invalidity).

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