Legal Standard for Obviousness vs. Obviousness-Type Double Patenting of Chemical Compounds

Angela D. Follett
Fish & Richardson, P.C.
October 24, 2012
Outline

- Brief overview of OTDP doctrine
- Discuss recent case decision
Common inventor and/or assignee

A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). MPEP 804
Unjustified extension of patent exclusivity beyond the term of a patent

Prevent possible harassment by multiple assignees
Types of OTDP

- Non-provisional – pending application and issued patent

- Provisional – two pending applications
  - Earlier case – allow to issue without requiring a terminal disclaimer
Addressing an OTDP rejection

- Reliance on 35 U.S.C. § 121
- File a terminal disclaimer
  - Patent term / common ownership implications
- Argue claims are patentably distinct from reference claims
  - *Eli Lilly & Co. v. Teva Parenteral Medicines, Inc.*, 689 F.3d 1368 (Fed. Cir. 2012)
If the application at issue is the later filed application or both are filed on the same day, only a one-way determination of obviousness is needed in resolving the issue of double patenting.

Even if the application at issue is the earlier filed application, only a one-way determination of obviousness is needed to support a double patenting rejection in the absence of a finding: (A) of administrative delay on the part of the Office causing delay in prosecution of the earlier filed application; and (B) that applicant could not have filed the conflicting claims in a single (i.e., the earlier filed) application.

MPEP 804
As a matter of law, the court construes the claim in the earlier patent and the claim in the later patent and determines the differences.

The court determines whether the differences in subject matter render the claims patentably distinct.

*Eli Lilly and Co. v. Barr Labs., Inc.*, 251 F.3d 955, 968 (Fed.Cir.2001)
Whether later claim is patentably distinct over earlier claims – e.g., either anticipated by, or would have been obvious over, the reference claim

Later inquiry – “obvious variant”
“analogous to a failure to meet the non-obviousness requirement of 35 U.S.C. § 103, except that the patent principally underlying the double patenting rejection is not used as prior art” *In re Longhi*, 759 F.2d 887 (Fed. Cir. 1985)

- Comparison of claims
Specification can be used as a dictionary to learn the meaning of a term in the patent claim.

Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. *In re Vogel*, 422 F.2d 438, 441-42 (CCPA 1970).

- Eli Lilly v. Teva (Fed. Cir. 2012)
Court clarifies the differences between the analysis for obviousness and obviousness-type double patenting for chemical compounds

Held that the claims directed toward the compound aripiprazole (Abilify®) are valid over three compounds disclosed and claimed in Otsuka’s own earlier-filed patents
Schizophrenia

- Positive symptoms - hallucinations and delusions
- Negative symptoms - flat affect, poverty of speech, inability to experience pleasure, lack of desire to form relationships, and lack of motivation

Antipsychotics

“typical”

“atypical”
Compound at issue - aripiprazole
Claims at issue

U.S. Patent No. 5,006,528 ("the '528 patent")

12. 7-{4-[4-(2,3-Dichlorophenyl)-1-piperazinyl]-butoxy}-3,4-dihydrocarbostyril.

16. A pharmaceutical composition for treating schizophrenia containing, as the active ingredient, a carbostyril compound or pharmaceutically acceptable salt thereof of claim 1 and a pharmaceutically acceptable carrier.

17. The pharmaceutical composition of claim 16, wherein the carbostyril compound or salt thereof is 7-{4-[4-(2,3-dichlorophenyl)-1-piperazinyl]-butoxy}-3,4-dihydrocarbostyril.

22. A method of treating schizophrenia in a patient comprising administering a pharmaceutical composition to said patient containing, as an active ingredient, a carbostyril compound or salt thereof of claim 1.

23. The method of treating schizophrenia of claim 22, wherein the carbostyril compound or salt thereof is 7-{4-[4-(2,3-dichlorophenyl)-1-piperazinyl]-butoxy}-3,4-dihydrocarbostyril or a salt thereof.
Three “lead” compounds - 1

- U.S. Patent No. 4,734,416 (“the ‘416 patent”)
- Broad genus disclosed covering “approximately nine trillion compounds.”
  - Compound claimed specifically and as the active ingredients in a claim to “A method of producing an antihistaminic effect in a mammal...”
### Three “lead” compounds - 1

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Three “lead” compounds - 2

- Disclosed in two foreign counterparts to ‘416 patent (SE and DE)
  - SE “discloses dozens of carbostyril compounds”
    - 2,3-dichloro propoxy is 1 of 96 compounds disclosed in Example 134 alone
  - DE disclosure is substantially the same as the SE
Otsuka development compound that was tested in humans as a potential antipsychotic

- “the anti-psychotic action was not strong but the strength of the activating action stood out”
- “expected to have fewer side effects than conventional drugs of the same class”
- “experienced sleeplessness, stagger, weakness, fatigability, heavy headedness, lack of motivation and disturbed concentration, which were so sever that they were not able to perform daily routine work.”
“prima facie obviousness under the third Graham factor generally turns on the structural similarities and differences between the claimed compound and the prior art compounds. Daiichi Sankyo Co. v. Matrix Labs., Ltd. 619 F.3d 1346, 1352 (Fed. Cir. 2010)

Two-part inquiry
1. Selecting a lead compound
2. Reason or motivation for modifying a lead with a reasonable expectation of success
Relevant Inquiry: Whether a chemist of ordinary skill would have selected the asserted prior art compounds as lead compounds, or starting points, for further development efforts

- “a compound in the prior art that would be most promising to modify in order to improve upon its ... activity and obtain a compound with better activity”
  - *Takeda Chem. Indus., Ltd. v. Alphapharm Pty., Ltd. (Fed. Cir. 2007)*
- “a natural choice for further development efforts”
  - *Altana Pharma AG v. Teva Pharm. USA, Inc. (Fed. Cir. 2009)*
Relevant inquiry: Whether the prior art would have supplied a PHOSITA with a reason or motivation to modify a lead compound to make the claimed compound with a reasonable expectation of success

- As with any obviousness inquiry, motivation can come from any number of sources
- “it is sufficient to show that the claimed and prior art compounds possess a ‘sufficiently close relationship…to create an expectation’…that the new compound will have ‘similar properties’ to the old”  
  
  Aventis Pharma v. Lupin (Fed. Cir. 2007)
DC identified two viable lead compounds:

- clozapine and risperidone were the only two marketed antipsychotic compounds at the time
- No carbostyril compounds were marketed or known to have good antipsychotic activity
‘416 patent explicitly discloses antihistaminic effect for the “lead” compound
Nakagawa declaration did not support selection of the compound
SE patent listed 2,3-dichloro propoxy as one of hundreds compounds potentially useful for an extensive list of central nervous system controlling activities.

Defendants tried to analogize to *Pfizer* (Fed. Cir. 2007) alleging that generic disclosure is all that is required for obviousness.
Taken as a whole, prior art taught away from using OPC-4392 as a lead compound

Necessary modifications:
1. Converting carbostyril core into a dihydrocarbostyril
2. Changing propoxy linker to butoxy
3. Replacing 2,3-dimethyl substituents to 2,3-dichloro
The patent principally underlying the double patenting rejection need not be prior art

Lead compound status is presumed

• “the issue is not whether a skilled artisan would have selected the earlier compound as a lead compound. That is so because the analysis must necessarily focus on the earlier claimed compound over which double patenting has been alleged, lead compound or not.”
The distinctions between obviousness under 35 U.S.C. § 103 and nonstatutory double patenting include:

1. The objects of comparison are very different: Obviousness compares claimed subject matter to the prior art; nonstatutory double patenting compares claims in an earlier patent to claims in a later patent or application;

2. Obviousness requires inquiry into a motivation to modify the prior art; nonstatutory double patenting does not;

3. Obviousness requires inquiry into objective criteria suggesting non-obviousness; nonstatutory double patenting does not.

349 F.3d 1373, 1378 (Fed. Cir. 2003)
Limitations of **Geneva**

- *Geneva* involved nonstatutory double patenting based on anticipation, not obviousness.
- *Geneva* does not stand for the proposition that, in considering whether one compound is an obvious variant of another for OTDP, analyzing the compound of the prior claim for a reason or motivation to modify is irrelevant.
None of the prior art references provided sufficient motivation to modify the “lead” compounds to result in aripiprazole.

Field was thought to be “very unpredictable” and antipsychotic research at that time was “notoriously unsuccessful.”
Acknowledgements

- Teresa Lavoie
- Susanne Goodson
- Liz Kaytor

- Angela Follett
  Follett@fr.com

THANK YOU!