EXAMPLE ANSWER

COMPILED FROM STUDENT ANSWERS

FOR

PATENT LAW FINAL EXAMINATION

PROF. GREG R. VETTER

SPRING, 2003

NOTES:

The answers given below are compiled from several student answers. That is, the answer for one issue may have been written by a different student than the answer written for another issue, etc.

The answers below were selected because they were the one of the highest point-obtaining answers for a specific area of law or issue among a few of the student answers that earned a high grade on the examination. The answers are provided directly as written by the student, without any spelling or any other type of correction or editing. These are not necessarily "perfect" answers, or even answers that noticed all the issues or got everything correct.

A. Invalidity

Validity of the 100 patent
To be valid, a patent must cover an invention that has patentable subject matter, is useful, novel, non-obvious, and meets various specification requirements.

Subject matter

Congress intended patentable subject matter to include anything under the sun that is made by humans. One of the categories of inventions that is patent-eligible is machines, and another is manufactures. "Machine" covers any apparatus, whereas "manufactures" is broadly defined to capture most other useful technology that is made by humans that does not fall into one of the other patent-eligible categories (processes and compositions of matter). Doc's invention is directed toward a process, though, as stated in the preamble to his claim 1. A process is a series of acts which are performed upon subject matter to produce a given result. Under such a general definition, Doc's invention meets the definition of process because it is a series of acts (directing light and calibrating the polarization) performed to produce a given result (magnification of light).

Subject matter is not patent-eligible, even if it falls into a patent-eligible category, if it is merely an abstract idea, natural phenomenon, or natural law. The Arness equation, as a mathematical formula, is likely to be considered an abstract idea by courts. Courts have used various tests to determine the patentability of such mathematical formulae and algorithms. One early test was the Freeman-Walter-Abele test. That test proceeded by examining whether a mathematical formula was used in the claim; a formula is clearly employed in Doc's claim 1. The next inquiry is whether the claim is no more than the algorithm itself, i.e. a formula not limited by or applied to physical elements or process steps. In Doc's claim, the formula is used only to calibrate polarization of glass, and is not used in other steps of the claim, such as directing light through the glass. As such, the formula likely is limited to a process step as that phrase is used in the Freeman Walter Abele test. As such, the Abele test would hold that the invention is patent eligible.

Later cases distanced themselves from the Abele test. In State Street, the court held that a machine was not patentable due to an unpatentable algorithm if it was merely abstract ideas constituting disembodied concepts or truhs that are not useful. The test employed in that case focused on whether the machine produced a concrete, useful, and tangible result. Applying such a test to the process in question, it looks as though Doc's claim one of the 100 patent is patent eligible, as it uses the formula to acheive a concrete result: magnification of light. As such, it is likely that under the State Street test, Doc's invention is patent-eligible.
Summary on the 100 patent

Because Haggen has alleged invalidity of the 100 patent only on the subject matter issue, and because he has stipulated that the patent is otherwise valid, a court is likely to hold that the patent is valid under the State Street test, or even under the now-disfavored Freeman Walter Abele test.

Patentability of the 200 patent
To be valid, a patent must cover an invention that has patentable subject matter, is useful, novel, non-obvious, and meets various specification requirements. Haggan has not raised any invalidity issues concerning the patent eligibility of the subject matter of the 200 patent, or

concerning the utility of the claimed invention. As such, only the other requirements for patentability will be discussed.

Novelty and Anticipation and the 200 patent
Generally, novelty is the patent system's central value. To be eligible for the reward of a patent, an inventor must accomplish something new. If an invention has been wholly anticipated by a prior art reference, no patent can issue.

The first step is analyzing an anticipation claim is to assess the current state of knowledge known to the art to be used as a basis for comparison. Haggen has introduced a prior are printed publication describing a type of MMCL, as well as testimony about O'Brien's Brazillian MMCL.

The next step is to determine whether any of the prior art references fully anticipates a claim; that is, the prior art reference discloses each element of the claim.

The Publication: The publication discloses a MMCL with thickness of 9.99 millimeters. A printed publication can serve as prior art under section 102. Element (a) of the claim states that the thickness of Doc's invention is not less than approximately 10 millimeters. A court will have to determine whether "9.99 millimeters" reads on "approximately 10 millimeters." In doing so, the court will first look to the plain meaning of the words in Doc's claim. Because the word "approximately" modifies "10 millimeters," and because "9.99 millmeters" is quite close to 10 millimeters, a court will likely determine that the printed publication's 9.99 meters is within the meaning of "approximately 10 millmeters" as the term is used in Doc's claim.

The next element of Doc's claim is the central internal cavity at the center of the circular lens body. The printed publication discloses a circular lens body with an internal cavity. It is unclear to me whether the printed publication discloses a "central internal cavity" per the plain meaning of such words, however. Assuming that additional facts support prove that it does, this element of Doc's claim is present in the MMCL disclosed in the printed publication.

The next element of Doc's claim is "at least four cylindrical cavities extending from said central internal cavity to the outer edge of the circular lens body." The printed publication discloses 2 holes drilled edge-to-edge of the circular lens body. Because the plain meaning of the words does not quite elucidate whether these descriptions are equivalent, a court may look to Doc's specification to determine what his words mean. The drawings in his specification show two holes drilled edge-to-edge straight through the lens, as suggested by the publication. Courts must avoid reading limitations from the specification into the claim, but in this case the embodiment of the invention depicted in the specification of Doc's patent shows holes drilles in precisely the method suggested by the printed publication. As such, this element of Doc's claim is anticiapted by the publication as well.

The fourth element of Doc's claim is that a gas occupy the cavities, and that that gas is X, Y, or Z. The publication discloses using gas Y in its "holes," which seem to be describing the structure Doc terms a "cavity." As such, this element is anticipated as well.
The final element of Doc's claim is that the MMCL have a low-light magnifying power in the range of 1.5-5.5. The publication is silent as to this issue, but Haggen still has a hope: the rule of inherency. That rule says that a gap in the prior art reference may be filled with recourse to extrinsic evidence when such evidence makes it clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized

by a POSITA. As such, if a POSITA, in reading the publication, would realize that the structure described would necessarily have a low-light magnifying power in the range of 1.5-5.5, this element of Doc's claim is also likely to have been anticipated.
Summary on the printed publication: if the magnifying power is an inherent property of the prior art structure, Doc's patent is likely invalid due to having been anticipated by the printed publication. More facts are needed to determine this.

The Brazilian MMCL: The Brazilian MMCL anticipated all the elements of Doc's patent (as, although Doc uses the term "approximately 10 millimeters" and the Brazillian MMCL says "1 centimeter," these values are equivalent under their plain meaning). The issue, then, is whether the use of the Brazillian MMCL constitutes prior art against Doc's patent. Under section 102(a), a single use of an invention can defest a later patent in certain circumstances. One of these circumstances is that the use occur in the United States. As such, the use of the Brazillian MMCL in Brazil cannot serve to defeat Doc's patent on the basis of anticipation. However, Dr. O'Brien sent photos he took with the MMCL camera to a friend in Kansas. Such pictures, however, would not disclose the structure of the invention, and would therefore be considered a non-informing use of the invention. Such a non-informing use in the United States, under the Gilman v. Stern case, would mean that the invention was known or used in the US under the meaning of section 102(a). As such, Mr. Goode's viewing of the photo in Kansas that was taken by the Brazillian MMCL would serve as a patent-defeating anticipation under the rule of Gilman v. Stern.

Statutory Bars

On Sale Bar

Even if Doc's 200 patent survives the above anticipation analysis, it must also not be barred by the statutory bars of sections 102(b) and (d). One statutory bas is the "On Sale bar." This serves to invalidate a patent that was put on sale in the US more than one year prior to the date of application in the US. Doc did offer to sell the invention to a friend of his in Canada. Haggen will argue that this e-mail, presumably sent by Doc while in the US, triggers the on-sale bar because it made the MMCL the subject of a commercial offer for sale, and because the invention was ready for patenting at the time the offer was made (as shown by the fact that the Canadian patent application had already been filed). Doc will argue that any offer of sale was made in Canada, the place of the receipt of the e-mail, and not in the US. Another fact on which this scenario hinges is the exact date of the offer for sale. To invalidate a patent, an offer for sale must have occured at least one year pre-application. Doc filed his application on June 6, 1999, but the offer for sale occured some time in June 1998. Only if the offer for sale occured in those few days of June 1998 that were one year prior to June 1999, and only if the offer was made in the US will it serve to invalidate claim 1 of the 200 patent. More facts are needed to determine whether the offer occured 1 year before the application in the US.

Delayed US Filings Bar

Secion 102(d) bars a US patent when (1) an inventor files a foreign application ore that 12 months before filing the US application and (2) a foreign patent results from that application prior to the US filing date. Doc filed for the US patent in May of 1998, more than 1 year before filing for the US patent in June of 1999. This meets element 1 of the 102(d) test. Moreover, Doc's canadian patent issued on June 4, 1999, which is prior to the US filing date of June 6, 1999, meeting the second element. As such, Doc's 200 patent is barred do to his delayed US

filing date under section 102(d).

Obviousness

Haggen also challenges the 200 patent on the basis of obviousness. Secion 103(a) says that a patent canot be obtained for an invention that is not anticipated under section 102 if the "differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains." Courts look at the totality of the circumstances to determine if the prima facie case of obvious has been made, which consists of:
1) A teaching, suggestion, or motivation to combine the elements is found in the references, the knowledge of a POSITA, or the nature of the problem
2) Reasonable expectation of success
3) Prior art references teach or suggest all the claim elements and limitations, and are from analagous arts.

The first thing courts look to in determining obviouness is the scope and content of the prior art. Haggen discloses Dillon, Greenwood, and Russell as possible prior art references. To be considered for obvious purposed, these references must be from analagous arts. To determine whether prior art is analogous, courts first look to see whether art is from the same field of endeavor as the inventor works in. This depends heavily on how the inventor's art is defined, but a broad, fair definition of Doc's field of endeavor is probably that he works in the area of magnification lenses. Under such a definition of Doc's field of endeavor, Dillon is obviously concerned with the same field, as Dillon deals with magnification lenses. The other 2 references, Greenwood and Russell, disclose information about lenses also, but do not discuss magnification properties. If a court defines Doc's art so as to say that all lens-related publications eminate from the same field of endeavor, Greenwood and Russell would also be from analogous arts. Assuming that the court limits the definition of field of endeavor to require a nexus to magnification, the Greenwood and Russell references will be considered analogous arts only if they would logically command themselves to a POSITA in inventor's field's attention. It is unclear to me whether an inventor who works in magnification would concern himself with the use of gas inside lenses, but Haggen will undoubtedly argue that this is the case. We will likely need more information concerning the relationship of gases and magnification properties to properly analyze this issue. For the rest of the analysis, I will presume that POSITAs in Doc's field would have been familiar with the Greenwood and Russell references.

The next step in the obviousness inquiry is to determine the differences between the subject matter sought to be patented and the prior art for the claims at issue on a claim by claim basis. Dillon: discloses an MMCL within the thickness range required by Doc's patent, and with 4 cylindrical cavities, and with a magnification range within that claimed by Doc. The differences are that Dillon uses an eight-sided lens, while Doc uses a circular lens, that Dillon does not use a central cavity, and that Dillon does not disclose the use of a gas in the MMCL.

Greenwood: discloses the use of a gas in a central cavity at the center of a lens, as claimed by Doc. Greenwood uses a spherical lens and cavity, however, while doc uses a circular lens. Additionally, Greenwood does not disclose the type of gas used, the cylindrical cavities, the thickness, or the magnification range of Doc's claim.

Russell: Discloses the use of gases X, Y, and Z in a lens cavity, but does not dislcose the lens

thickness or shape, the location of the lens cavity with relation to the lens, the magnification range, or the cylindrical cavities.

The next step in the obviousness inquiry is to assess the level of skill of a POSITA. The facts say that a POSITA would know that a circular lens would be superior to the eight-sided lens disclosed in Dillon.

The final step of the obviousness inquiry is to determine whether secondary indicia of obviousness exist. Once such factor is whether the product is commercially successful, and another is whether licenses have been sought for the technology. Although the product is not yet on sale, the fact that 4 dominant suppliers have licenses the technology suggests that there is industry respect for Doc's invention, and this is strong evidence of non-obviousness.
The court, then, will look at the totality of the circumstances to determine whether Doc's invention meets the non-obviousness requirement. It is likely that a court will determine that the invention was obvious. First, all off the elements of the invention can be found in the prior art references taken as a whole. Second, the Dillon reference, when read in light of the knowledge of a POSITA that circular lenses are superior to 8-sided ones, and when read in light of Greenwood, which discloses the advantages of gas-filled cavities, and Russell, which suggests gas X, Y, and Z, supplies the requisite suggestion to combine, assuming that all 3 references are from analogous arts. Finally, the disclosures as to the advantages of gas-usage and lens shape suggested a reasonable expectation of success, completing the prima facie cas of obviouness. Doc can argue that the licenses cut against a finding of obviousness, but it seems as if Haggen has a strong case.

Specification Requirements

Section 112 paragraph 1 requires that the patent specification be enabling; that is, a POSITA, after reading the specification, should be able to practice the disclosed technology. Cases have interpreted this rule to mean that a POSITA's knowledge, when combines with the patent disclosure and some (not undue) experimentation, should be able to make and use the invention.

Assuming that Pam Posita is a POSITA, her testimony that she could not attain the claimed level of magnification after thousands of experiments suggests that the disclosure is inadequate to enable a POSITA. Additionally, the court-appointed expert POSITA took more that 10,000 experiments to finally make the invention at the claimed maginifaction level.
Factors courts may look at in determining whether the amount of experimentation required to practice the invention is undue include the quantity of experiments necessary, the amount of guidance in the specification, the presence or absence of working examples, and the nature of the invention, among others. 10,000 experiments seems like a lot, but may be regarded as relatively few by POSITAs in Doc's field. If the thousands of experiments necessary to practice the invention are onerous, as Haggen will argue, it is likely that the patent would be subject to invalidation on the basis of an inadequate disclosure.

Summary of 200 patent: Haggen is likely to prevail on the specification, obviousness, on-sale bar, delayed filing, and anticipation issues. The 200 patent is likely invalid.

B. Infringement & Defenses

Patent Infringement of '300:
Claim construction of "Patient": to determine if Haggan's system infringes, it must first be determined what patient means. If the claim language is clear on its face, then remaining intrinsic evidence, specification and prosecution history, should be considered only to determine if deviation from the clear language of the claim is necessary. The dictionary meaning of patient is most likely sufficient, which probably is something along the lines of one who is being cared for by a physician. Animals are also called patients by veterinarians, and also, many instruments used for humans can/are also used for animals when they are undergoing surgery or being examined. However, the claim also discuses an endoscopic instrument to be used on the "patient." An endoscopic instrument is for examining visually the interior of a body canal or organ, such as the colon, bladder, or stomach. This could give rise to an inference that the instrument is meant to be used on a human patient, however, animals also have bladders and stomachs. If the court still determines that patient is ambiguous, they can look to extrinsic evidence. However, I think, Haggan's assertion that patient is limited to humans will not be accepted and thus his use is not distinguished from Doc's patent.

"Remote Location": The dictionary meaning of remote means to be located far away, distant in space, operated or controlled from a distance. Although the normal meaning of far away seems to preclude 2-3 meters, the dictionary meaning alone may be insufficient to tell us how far is "remote" since "from a distance" is not determinative. Even if the dictionary definition is determinative, the court can look to the specification and prosecution history to determine if deviation from the dictionary definition is necessary, such as if the patentee is acting as his own lexicographer or uses the term in a manner other than its ordianry meaning. Also, if the claim is not clear on its face, then the court can look at the specification and to prosecution history to determine the meaning of the claim. However, one cannot read limitations into the claims from the specification, can only read the claim in light of the specification. Looking to the specification, it discloses embodiments for where the surgeon is located in another city and also where the surgeon is located in the operating room. Since one cannot read a limitation into the claim, remote location should not be limited to locations in another city. Reading the claim in light of the specification disclosing an emodiment where the surgeon is in teh room with the patient and can see the operating table encompasses Haggan's system of 2-3 meters from the patient and his claim construction excluding any location within the operating room or excluding any location closer than 3 meters will not be upheld.

If it is found that the meaning is still ambiguous after looking at the specification, teh court can look at the prosecution history, where Doc amended limitation (c) noting that the advantage of his invention is realizable in any surgical operating situation where the surgeon is beyond the reach of the patient. Even if the court determined "remote location" to be beyond the reach of the patent, it would still encompass Haggan's system since a person (generally) cannot reach 2 meters with his arm.

Literal Infringement: A party infringes if he, w/o authority, makes, uses offers to sell, or sells any patented invention during the term of the patent. There is literal infringement when every element contained in the patent claim is present in the AID. Haggan's system does not literally infringe on Doc's '300 patent. Haggan admits that his sytem has element a; b, c, e, and d are all found to be infringed based on the above claim construction; however, Hagan's system does not have claim f. Haggan's nano-enactors are after-developed technology and not a literal equivalent. While adding elements will not help the defendant escape infringement, not having

one element in the AID that is in the '300 patent will defeat a claim of literal infringement.
Element (f): Since this is a M+F element, one must look to the specification to interpret the language in light of the corresponding structure--the specification discloses an electric servo motor. There can be literal or infringement by equivalents of M+F claims. For literal infringement, one must find an identical function, SSW, and SSR. After developed technology from the date of issuance of hte patent will not be a 112(6) equivalent. Therefore, Haggan's nano-enactor does not literally infringe on Doc's element (f) and there is no literal infringement of the entire claim.

DOE: There may be infringement by equivalents if there is an equivalence between the elements of the accused product and the claimed elements of the patented invention if the AID has a SSF/SSW/SSR. DOE is on a element by element basis.

Element (a): Haggan admits that his system has Element (a)

Element (b): If the above claim construction is correct and patient encompasses animals, then there is an equivalent of this claim. If not, the court must look at the known interchangeability between humans and animals at the time of infringement. Humans are "animals", however, since there are so many differences between medicine for humans and that for animals, it could be argued that this is not interchangeable. However, since science is so far advanced for humans when compared to for animals, there is a good argument for known interchangeability. If it is determined that humans and animals are interchangeable, then there can be an equivalence for this element since Haggan has an MMC on an endoscopic instrument.
Element (c): This could be a M+F claim, however, there are no means disclosed in the specification...the claim states that there is a transmission means for transmitting a signal to the remote location beyond a range of direct visual contact with the patient's body. There may be a PHE bar to claiming DOE for Haggan's system which requires the surgeon to be in the operating room where he can see the operating table, i.e. be within 2-3 meters of the patient. PHE applies for any RRtoPat, 102, 103, 112 rejections, etc. the patentee has the burden of establishing the purpose of the amendment, however, if no purpose is proved, the court presumes a purpose such that PHE applies. Since Doc amended the claim in response to an indefiniteness 112 rejection, he cannot now claim DOE coverage for locations between the range of manual contact and visual contact with the patient, which precludes Haggan's use as an equivalent. To rebut the presumption that PHE applies, Doc can show that at the time of the amendment, a POSITA could not have reasonably been expected to draft a claim that would literally encompass the alleged equivalent three ways: showing that the eqivalent was unforseeable at the time of the application, the rationale underlying the amendment bears no more than a tangential relation to the equivalent in question, or some other reason suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question. However, Doc did in fact draft a claim that would literally encompass the alleged equivalent by using "manual". Therefore, Doc may be barred from claiming DOE for this element

Element (d): even if Haggan's claim construction is followed, Doc can argue equivalent

Element (e): if patient is determined to encompass humans and animals, then there is literally infringement and thus equivalence. If claim construction is such that patient is not an animal, then DOc can argue equivalent, which will depend on the known interchangeability...
Element (f): Since this is a M+F element, one must look to the specification to interpret the language in light of the corresponding structure--the specification discloses an electric servo

motor. There can be literal or infringement by equivalents of M+F claims. For DOE infringement, one must find a SSF/SSW/SSR. also, afterdeveloped technology can be an equivalent under DOE. Therefore, Haggan's nano-enactors may be equivalent to Doc's element (f). Because of the testimony by Phil Posita that Hagan's nano-enactors perform a SSF/SSW/SSR as the servo motors, it is an equivalent.
Because all elements of Doc's claim are in Haggan's system, there is infringement by eqivalents

Estoppel as a Haggen's Defense to Infringement: if found, equitable estoppel will bar Doc's entire claim for past and future infringing actions. If Doc, through misleading conduct, led Haggan to infer that he did not intend to enforce his patent against him, and Haggan relied on that conduct and would be materially prejudiced if Doc was allowed to proceed with his claim, Doc may be estopped from claiming infringement. Doc's conduct clearly relaying to Haggan that he knew Haggan was possibly infringing and told him that he wouldn't bring his patent against him and then telling Ma that he was planning on "swooping down on Haggan with my patent for a nice fat royalty percentage" after Haggan built his plant and was making money, Doc's conduct was misleading. Haggen will be materially (economically) prejudiced because he will suffer monetary damages that would have been prevented if Doc's conduct had not been misleading. Only after Haggan constuctied his facilities will Doc bring suit. Therefore, Haggan clearly will have changed his economic position during the period of delay since he first learned of the patent at the beginnings of his discussions with bankers to build the facilities to manufacture his system. However, Doc may be able to argue that there was no infringement at the time, and Doc cannot bring suit until there is infringement, therefore, Haggan necessarily had to build the plant and begin sales before Doc could bring suit and there is no economic prejudice. But Doc's argument will most likely fail because haggan built the plant relying on Doc's misleading comment and Doc will most likely be estopped from claiming infringement for any past and future infringements by Haggan.

Laches as a defense to Infringement: Laches bars a patentee's claims for prior infringements. For laches to apply, the patentee's delay in bringing suit must be unreasonable and inexcusable, and Haggan must suffer material prejudice attributable to the delay. The delay, which will be until "after sales are nice and healthy" may be unreasonable depending on: the length of time from when Doc knew or should have known, which was probably right when sales started since Doc knew beforehand that Haggan was building a plant to make the remote surgical system and any justifications for the delay, such as other infringement, negotiations with Haggan, or dispute over ownership of Doc's patent. The delay will most likely be unreasonable because Doc knew of the infringement from its beginning and, if there are no other suits or excuses for delay, then it will be unreasonable. Material prejudice can be either economic or evidentiary, i.e. Haggan would be unable to present a full and fair defense becuase of lost records, inadequate memories, death of witnesses, etc. There will be economic prejudice, which alone is enough, if Haggan changes his economic position during the delay. Changes in position could be a greater investment into teh plant, or plans to build another plant, long term contracts with suppliers, etc. Haggan may not be able to prove economic prejudice, however, because he knew of Doc's plans right before he started his sales activity. Therefore, there is no relaince causing further investment into the business and no justification for entering into long term contracts, etc.