Sample Exam Answer

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LAW-688-001: Patent Law

Fall 2025

1 Question 1

1.1 Patentability

Jinu's patent may be invalid on the basis of the following doctrines.

1.1.1 Obviousness

The patent may be invalid for obviousness under section 103. Per *Graham v. Deere*, courts consider the scope and content of the prior art, the differences between the prior art and the claimed invention, whether a person of skill in the art would have found the invention obvious, and secondary considerations. Each of these factors is considered below.

Scope and content The two relevant prior art references are the Yonsei University paper and the Book of Demon Spells. To be prior art under section 103, both must satisfy the subject matter and date requirements of section 102. Here, both references were published prior to the effective filing date of Jinu's patent because both existed prior to Jinu's conversation with Gwi-Ma one day before Jinu filed the application.

Regarding subject matter, the facts give no reason to doubt that the Yonsei paper is a printed publication. As to the spell book, the general rule is that a book in a library is a printed publication if it is indexed by subject matter (*In re Hall*), and the spell book was indexed under S for Spells. One might argue that such indexing is too vague or broad for a person of ordinary skill to have found it, but the argument seems weak particularly in view of the concern of granting patent

monopolies on information that appears to be generations old, like an ancient spell book.

Additionally, both references must be analogous art, meaning that they are from the same field of endeavor or reasonably pertinent to the problem with which the inventor is involved. The Yonsei paper clearly satisfies this, as it is in the field of endeavor of eliminating demons. The spell book is more questionable. A book of demon spells is arguably in the same field of endeavor as demon-related technology, but on the other hand, would one necessarily look do a demon spell to get rid of demons? For similar reasons, it's not clear whether an ancient spell book is reasonably pertinent to the problem of creating an energy field that apparently requires modern research. Thus, there are good arguments on both sides regarding whether the demon spell book is analogous art. That being said, one imagines that someone looking to cast out demons would look to the magical arts in the given universe, suggesting that the balance ought to weigh in favor of the book being analogous art.

Differences Next in the *Graham* analysis is the determination of whether the prior art contains all the elements of the claimed invention. Here, that appears to be the case.

Claim 1, element [a] is found in the spell book, which contains the phrase "born to be" along with many other demon spells. (While the spell book perhaps does not disclose singing the phrase, the Yonsei paper does.) Element [b] is met by the Yonsei paper, which teaches singing at the frequency 831 hertz, determined above to be within the scope of a "demon-repelling frequency."

Motivation to combine Graham next requires a showing that a person of skill in the art would have found the claimed invention obvious, which per *KSR* requires a demonstration that the skilled artisan would have had a motivation to combine the relevant prior art references. There are several arguments to consider.

On the one hand, the Yonsei paper clearly raises the question of expansion of an energy field, thereby suggesting and motivating a combination with a technology (like the Born to Be spell) that achieves that result. Furthermore, the elimination of demons is presumably a good thing, so societal and market forces would have encouraged the combination per *KSR*.

On the other hand, evidence of teaching away and unexpected results weigh against a finding of motivation to combine. The Yonsei paper says that "there

was no way to make the field large enough to be useful." That suggests that the paper teaches away from the combination of the prior art references. And given the amount of experimentation it took Jinu to find the right spell, one could argue that the combination was an unexpected result. These arguments potentially weigh heavily, potentially in view of the tremendous incentives needed to encourage inventors to perform laborious experiments in unpredictable field, and likely would lead a court to find nonobviousness here.

Secondary considerations Should a court decide otherwise and establish a prima facie case of obviousness, the analysis would turn to secondary considerations. Because there is little evidence in the facts of subsequent commercial success or praise (since no one has used the invention yet), the strongest secondary consideration would be long-felt need. The Yonsei paper and Jinu's conversation with Gwi-Ma suggest that people have long wanted to make a Golden Honmoon without success, suggesting that Jinu's determination of how to make one was not obvious to all those who had tried before. Similarly, one could argue that the facts support the secondary considerations of skepticism in the field, failure of others, subsequent copying, and simultaneous invention among others.

To the extent that courts use teaching away and unexpected results as secondary factors, those would weigh against obviousness here as well in view of the arguments above.

In sum, there are strong arguments that Jinu's patent is nonobvious.

1.1.2 Novelty

Neither the Yonsei paper nor the book of spells anticipates Jinu's patent under section 102, because anticipation requires all the elements of a claim to be found in a single reference. The Yonsei paper does not teach the use of a demon spell, and the spell book does not teach the requisite frequency.[1]

1.1.3 Enablement

Jinu's patent presents an enablement problem. For a patent claim to be enabled, a person of skill in the art must not be required to use "undue experimentation"

[1] A few people read the fact pattern to suggest that the spell book recited the frequency as well as the relevant words. This is somewhat implausible in view of the whole fact pattern; Jinu would have no need to tell Gwi-Ma about the Yonsei reference if the spell book had everything. I did give credit for analyzing this possibility though.

to practice the patented invention. Here, it took Jinu 6 months of trying every spell in the book, and he himself acknowledges that the spells aren't predictable. However, the patent text merely lists all the spells without guidance as to which one works. Much like *Amgen* and *Incandescent Lamp*, a person of skill in the art would be required by trial and error to test every spell until finding the right one, suggesting that undue experimentation is required and the patent is invalid for lack of enablement.

1.1.4 Written Description

Similarly, Jinu's patent is likely invalid for lack of written description. The test for written description is whether the specification demonstrates that the inventor had "possession" of the invention at the time of filing, and per *Ariad*, when a claim covers a genus rather than a species, the specification must provide either a representative number of working species or sufficient blaze marks to guide the person of skill in the art. Here, the specification provides neither, instead only listing all the demon spells including the non-working ones with no differentiation.

To be sure, Jinu himself had mental possession of the working spell, but written description is evaluated based on the four corners of the specification, not on the inventor's subjective knowledge. Indeed, that advances the purpose of patents as disclosure of information to advance the progress of the useful arts. Thus, Jinu's patent is likely invalid for lack of written description.

1.1.5 Subject Matter Eligibility

Jinu's patent may be invalid for claiming ineligible subject matter. Per *Alice v. CLS Bank*, a claim is ineligible if (1) it is directed to an abstract idea, law of nature, or natural phenomenon; and (2) if the claim lacks an inventive concept rendering it significantly more than a patent on the ineligible concept itself.

Here, one might argue that the claim is directed to a natural law that certain frequencies generate a demon-repelling energy field. This is analogous to *Mayo*, which held that natural correlations were ineligible subject matter. That suggests that step (1) of the test is satisfied. However, on step (2), one might respond that the use of a specific demon spell to amplify the energy field is an inventive step that goes beyond the law of nature itself. Arguably the use of the spell is a technological improvement to the functioning of the energy field, like how the database structure in *Enfish* was a technological improvement to the computer.

Thus, there is a reasonably strong argument that this claim is not invalid for ineligibility.

1.1.6 Other Issues

The patent claim easily satisfies the *Nautilus* standard for definiteness, namely reasonable certainty, because both the frequency range and the list of words to be sung are distinctly identified in the patent text. Utility is not a significant concern either, because the formation of a golden Honmoon is a real-world immediate application of the claimed invention.

1.2 Infringement

1.2.1 Direct Infringement

Direct infringement under section 271(a) requires commission of a listed act (make, use, sell, offer to sell, import) and an instrumentality that satisfies all elements of the infringed patent claim. Here, the singers intend to sing at a concert in a manner that uses Jinu's claimed invention, so the act requirement is satisfied. The only remaining question, then, is whether all elements of the claim are satisfied.

Element [a] of Claim 1 is satisfied because the song contains the words "born to be," which are "a plurality of sung words corresponding to a demon spell." Element [b] is not literally infringed, because 880 hertz is not within the range given in the claim element (821–841 hertz).

Doctrine of equivalents However, element [b] might be directly infringed if the 880 hertz frequency is equivalent to those claim elements, respectively. Under the typical test for the doctrine of equivalence, the function-way-result test is used to determine if a feature of an accused instrumentality is equivalent to a claim element.

Here, the function of frequency range of element [b] is to repel demons; the result is that demons are repelled. The way is that the frequency generates an energy field, in particular an electrical field as Zoey notes.

The 880 hertz frequency serves the same function and achieves the same result. However, the similarity of the "way" is contestable. On the one hand, both produce an energy field of some sort. But as Zoey says, the 880 hertz frequency produces a gravitational field, not an energy field, suggesting that the "way" is

different. Given that this difference seems substantial and there is good reason for patent law to motivate new discoveries of alternate forms of demon-repelling energy fields, it seems reasonable for a court to say that the 880 hertz frequency is not an equivalent.

If it is an equivalent, there is no reason for prosecution history estoppel to apply because there were no amendments to the claim during prosecution. And there is no evidence that any other exception to the doctrine of equivalents is relevant.

Assuming that 880 hertz is not equivalent to either claim, then Jinu's patent is not infringed by singing *Golden*.

2 Question 2

2.1 Injunction

Injunctive relief is the most reasonable form of remedy for Jinu to pursue, as an injunction would preclude *Golden* from being sung. Whether a court grants injunctive relief is governed by the *eBay v. MercExchange* factors: (1) irreparable harm, (2) insufficiency of monetary compensation, (3) balance of harms, and (3) the public interest.

Regarding (1) and (2), Jinu would argue that being banished from the planet is an irreparable harm to him and his fellow demons, and no amount of money could make up for it. One could respond, though, that this is a harm but not a *patent-related* harm—he loses nothing in terms of his own ability to exploit the patent, since he has no desire to actually exploit the patent at all. Thus, depending on how a court interprets this factor, it could weigh strongly in favor of an injunction or be overall neutral.

Regarding (3), the balance of harms considers the effects of an injunction on the infringer. Here, the only thing that would happen is that Rumi, Mira, and Zoey cannot sing *Golden* at a specific frequency. They could potentially work around the patent by singing at a different frequency, or singing a different song altogether. Thus, their economic harm is arguably fairly limited. They might contend that they also lose out on the economic value of the Golden Honmoon, but it is unclear whether they personally benefit from it. Accordingly, this factor weighs at most neutrally, and perhaps in favor of an injunction.

Regarding (4), the public interest depends on whether it is desirable for demons to be banished from the planet. The facts do not make clear whether demons are

actually harmful, how many demons or humans there are, or whether demons count as part of the "public" for the public interest. These are all difficult factual questions that a court would have to assess. On the assumption that demons are harmful and that it is in the public interest to stop demons, though, this factor arguably weighs heavily against an injunction.

In sum, there are strong arguments on both sides and one would need further facts to make a proper assessment, but on the assumption that protecting the world from demons is a pressing problem, an injunction would probably be denied.

2.2 Forum

The only reasonable forum is a federal district court (probably the one in which the concert is to be held, in view of personal jurisdiction). The U.S. International Trade Commission is not a plausible venue here, because it requires that the patent holder have a domestic industry, and presumably Jinu does not want anyone practicing the Golden Honmoon invention in the United States or otherwise.