Patent Law
Professor Risch

PATENT LAW FINAL

For the purposes of this exam, the ordinary skill in the art most likely requires a person to have familiarity with screws and possess basic mechanical knowledge. A specialized degree is unnecessary given the invention's simplicity.

Q1: VALIDITY CHALLENGES TO THE '123 PATENT & HOLDER'S RESPONSES

Utility- §101 & §112

An inventor must show his or her invention possesses operable, practical, and beneficial utility at the time of filing the application. Under *Lowell*, an invention need not be better than what is on the market to possess utility. Con may attack Pat's patent on utility grounds, stating that the screw "doesn't work at all." This argument will fail, as utility is measured at filing, not after-the-fact.

Operable utility aids in showing that the invention works for its intended purpose. To satisfy operable utility, a person having ordinary skill in the art (PHOSITA) must not find the invention inherently unbelievable. Only basic operability is required. Pat's screw need not work better than other screws. Based on the history of prior art containing functional screws with different shaped recesses in their heads, a PHOSITA is unlikely to find Pat's invention inherently unbelievable.

Practical utility requires that the invention have both "specific" and "substantial" utility. A specific utility is specific to the subject matter claimed and contrasts with general utility, which is applicable to broad inventive classes. For example, stating an invention treats lymphocytic tumors is more specific than simply stating that it shows "high biological activity." *In re Brana.* Substantial utility defines a real world use, or a use that is "significantly and presently available" to the public with a "well-defined and particular benefit." Here, the

invention has specific utility because the specification describes the screw as capable of use while withstanding high torque forces in construction without stripping the screw shaft. Con cannot argue Pat is claiming a broad genus, as the stated purpose is far more specific than simply "construction," for example. The invention has substantial utility, as using screws is a real world use, a lack of stripping is a particular benefit, and the ability to withstand high forces further defines this use.

Beneficial utility is met as long as the invention does not have a socially harmful or deleterious purpose. However, this type of utility is not practically used to invalidate patents after *Juicy Whip*. A screw is not socially harmful and has beneficial utility.

§112- Disclosure

§112(a) requires an application "contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains . . . to make and use . . . [the invention]."

a. Enablement- §112(a)

Enablement is measured at the time of application filing. Enablement asks if the specification allows a PHOSITA to make and use the invention. Enablement is not met if a PHOSITA would need to undertake undue experimentation to make and use the invention. *Incandescent Lamp.* To determine if experimentation is "undue," courts may look at 1) the quantity of experimentation necessary, 2) the amount of guidance presented, 3) the presence or absence of working examples, 4) the skill in the art, 5) the state of the prior art, 6) the nature of the invention, 7) the breadth of the claims, and 8) the predictability of the art.

Con may try to challenge the patent by stating that it would take undue experimentation to figure out how to make and use the screw properly. Con may challenge Claim 1's mention of

"any shape," arguing it would take undue experimentation to find out which shapes will work. This is unlikely to succeed because the addition of Claim 2 clears up these details, specifying a square shape and roughly triangular wings. In addition, the specification shows a preferred embodiment. This, combined with the knowledge that screw heads have held different shapes to interlock with screwdrivers for years, is likely to allow a PHOSITA to make and use the invention without undue experimentation.

b. Written Description- §112(a)

Written description is an inventor-focused inquiry. All claims in the patent application must be supported by the written description and application as it was originally filed. *Gentry Gallery*. The requirement asks the question: do the four corners of the specification contain information indicating the inventor had possession of the invention as of the filing date? *Ariad*.

Con may challenge claim 1, claiming that "any shape" is too broad and not supported by the specification. However, the specification does not limit the wings to any shape, stating any shape capable of accepting force is appropriate. Also, the specification places no shape limitation upon the recessed portion. Con may challenge Claim 2 specifying a triangular shape for the wings since the specification's only specifically identified shape is trapezoidal in the embodiments. However, Pat can counter this by his statement in the specification that the wings may be any shape, and that embodiments from the specification should not be read to limit the claims. He should expect Con to argue, though, stating Pat could not have possibly foreseen every shape possible and thus did not "possess" every shape. *Incandescent Lamp*.

c. Definiteness- §112(b)

Definiteness requires that the claims should particularly point out and distinctly claim the subject matter the inventor regards as the invention. The claim must lay out the "metes and

bounds" of the claim to the public. This requirement serves a notice function and must inform the public with reasonable certainty what they may use without a license. *Nautilus*. Definiteness is viewed from the PHOSITA's perspective at the time of filing. *Orthokinetics*.

Con may argue that Claim 1 does not lay out the "metes and bounds" of the invention, as it potentially covers every possible shape for a recessed portion and wing without describing what the terms mean. Con may argue "wings" is indefinite, as wings can be different sizes, shapes, and protrusion angles. Pat may counter that Claim 2 specifies square and triangular shapes, and claims may informed by the specification drawings. Pat would argue that allows a PHOSITA to understand the invention's scope. On Claim 2, Con may argue "roughly" triangular is also indefinite, as the specification does not address triangular formations in a preferred embodiment and does not specify the extent to which "roughly" allows a PHOSITA to modify a triangle. Pat will counter triangles are basic shapes and "roughly" only means different angles are possible, indicating a PHOSITA would understand any three-sided shape was usable.

Patentable Subject Matter- §101

Under §101, a process, machine, manufacture, composition of matter, or improvement may be patentable. Generally, laws of nature, physical phenomena, and abstract ideas are not patentable. *Mayo/Myriad*. There are no categorical exemptions. *Bilski*. To determine if a concept is abstract, one first asks if the claim is *directed* to an abstract idea. If so, the claim must add "something more," or an "inventive concept" to be patentable. *Alice.*

Con may argue the invention is directed to the law of nature of torque and is unpatentable. Con may also try to argue that the invention is directed to the abstract concept of connecting two pieces of material. Pat will be able to rebut both of these, as he will say the screw *applies* a law of nature, which is different than being *directed to* a law of nature, likening his

invention to the *Neilson* furnace. Pat will say the human intervention of creating the screw with winged protrusions precludes the screw itself being a law of nature. Pat will also argue that the shape of the screw head is an inventive concept and not abstract.

Novelty- §102

a. §102(a)

Under §102(a)(1), a person is entitled to a patent unless the claimed invention was patented, described in a printed publication, in public use, sale, or otherwise available to the public before the filing date of the claimed invention. Under §102(a)(2), a person is entitled to a patent unless the claimed invention was disclosed in a patent application, filed by another, that eventually publishes and was filed before the claimed invention's effective filing date. Under the AIA, the effective filing date may be the filing date of a US application or the earliest foreign filing date the US application may validly claim priority to (i.e., application filed within a year prior). Here, Pat's effective filing date is December 31, 2015. The following may be included in the prior art:

1. *'837 Patent (Phillips)*

The Phillips screw patent was filed on July 3, 1934, before Pat's filing date in 2015, making it part of the prior art. The '837 Patent is prior art under "described in a US patent" under §102(a)(2) as of its effective filing date of July 3, 1934.

2. *IKEA Allen Screws*

The IKEA Allen screws were §102(a)(1) "on sale" in the 1980s, before Pat's 2015 filing date, and thus are also in the prior art.

3. *Pat's Own Sale*

Pat's own sale could put his screws into the anticipatory prior art. It is important to note that a request for manufacturing is not a "sale," as Pat is purchasing manufacturing services on

06/01/2014 and not selling his invention. Pat actually put his screws on sale on December 15, 2014, before his filing date of December 31, 2015. To be "on sale," the invention must be the subject of a commercial offer for sale and be "ready for patenting." Here, the screws were the subject of sale. Before the sale, Pat created his drawing of the screw head that later went into his patent, indicating the screw was "ready for patenting." *Plaff.* Pat may be able to argue the screws sold differed from the patented screws, making the sale was no longer directed to the invention, but this is unlikely to be successful given the identical nature of the drawings.

4. *Professor's Publication*

The professor's publication is "printed publication" prior art as of the date it is sufficiently accessible to the public. Thus, the article is not prior art as of the date it was submitted to a journal, but *is* as of the date it is published, which was June 1, 2015. Pat may be able to argue that the article was indexed by author, and the professor is not well-known, lending insufficient public access for the article to be a "printed publication." However, it is not suggested this occurred, and as long as the article was published in a publicly accessible manner, it qualifies. *Klopfenstein.*

5. *Japanese Bolt*

The Japanese Bolt is not patented yet, so it cannot be "patented" prior art. However, since the PCT eventually published, it may be backdated to its effective filing date of January 1, 2015. Also, since the US patent application was filed within a year after the PCT's filing, the US application may have an effective filing date of January 1, 2015 as well. Thus, the Japanese Bolt is "printed publication," and "otherwise available to the public" prior art. It may also be "described in a published application" once the US application publishes. At that point, the application will backdate to the effective filing date.

b. §102(b) Exceptions

Even if something qualifies as prior art under §102(a), it may be exempted under §102(b). Generally, if the inventor, joint inventor, or someone who obtained the subject matter *from the inventor* disclosed the claimed invention, the disclosure will not be prior art provided the inventor files a patent application within one year of the disclosure.

Here, there are no exceptions for the '837 Phillips Patent or the IKEA screws, as these were disclosed by someone other than the Pat more than a year before Pat's filing. While the Japanese Bolt was disclosed less than a year before Pat's filing in the PCT on 1/1/2015, Pat did not file that application, and thus, the bolt is not excluded. Pat's own sale was his own disclosure, but the sale occurred on 12/15/2014, more than a year before Pat's filing on 12/31/15, and thus is not excluded either. The engineering professor's article, however, may be excluded if Pat can prove that the professor obtained the information for his article form Pat. The 06/01/2015 publication is within a year prior to Pat's filing on 12/31/2015, allowing its exclusion on if Pat can show the professor took Pat's idea from him and did not independently form it.

c. Anticipation

Anticipation under 102 requires a single prior art reference to contain "all elements" of an invention's claim. *Robertson.* A claim element may be expressly or inherently anticipated by a prior art reference. *Schering.* Thus, if the claims inherently covers an activity previously in practice, the claim cannot be permitted. *Schering*.

To determine if a prior art reference contains "all elements," Pat must determine what the elements are. Claim construction will be necessary to determine the elements and if the prior art encompasses them. To construe claims, one should first look to the claims themselves, giving the language within the ordinary meaning according to the PHOSITA unless the patentee has

defined otherwise. *Wright.* Then, intrinsic evidence such as the specification and prosecution history may be used. *Phillips.* Only if ambiguity persists may extrinsic evidence be utilized. *Phillips*. Claims should be interpreted to have different scopes and encompass the preferred embodiments within the specification when possible. *Phillips*.

1. *'837 Patent*

To anticipate, the '837 Patent must disclose 1) a threaded shaft and 2) a head with a central recessed portion with one or more winged recesses protruding from it. The Phillips patent has a "positive wedging arrangement" that would place a screw in a "centralized' position with respect to the driver. The driver's need to "lock" into the arrangement suggests the arrangement is recessed. In addition, Phillips' arrangement has "angular faces." The Phillips patent also aims to make non-strippable screws, so it will satisfy Pat's first element of a threaded shaft. However, while Phillips may have a central recessed portion like Pat, the question is if the "positive wedging arrangement' discloses Pat's one or more winged recesses protruding form the central recessed portion. Con may argue Phillips' positive arrangement mirrors a "+" sign, with each arm disposed angularly outward and each arm constituting a "wing" like Pat's claim. Con may also argue the "angular faces" in Phillips cover the wing angles in Pat's claims. Pat, however, did disclose the wings as "roughly triangular" in Claim 2, which Phillips' protrusions clearly are not. Given the facts, Phillips may anticipate Claim 1, but probably not Claim 2.

2. *IKEA Screws*

Here, IKEA's photos and drawings show a screw with a threaded shaft and octagonal recess in the center of the screw head. While IKEA's product contains Pat's threaded shaft element and screw head with a centralized recess, there are no protrusions or "wings" extending

from the recess. Thus, little claim construction needs be done to see that IKEA does not encompass the elements of Pat's Claims 1 or 2.

3. *Pat's Sale*

One year after Pat's sale on 12/15/14 would be 12/15/15. This makes Pat's filing on 12/31/15 more than a year after the sale. If the screws sold contained all the elements of Pat's original drawing, the sale will be anticipatory and Pat will not be able to file under the on-sale bar. Pat's only hope is to argue that the screws sold did not have one of the elements of the final patent application, but this is unlikely given that his original drawing made it into the application.

4. *Professor's Publication*

The professor's publication disclosed "wings" from a "central recess" reduce screw stripping. While the article does not say "protruding," the use of the word "from" a central recess likely indicates the terms are synonymous. As all of Pat's patentable elements seem to be contained, Pat's only hope to invalidate this as anticipatory prior art is to show the professor stole or somehow took the idea from Pat himself, which would exclude the disclosure under §102(b).

5. *Japanese Bolt*

The bolt's equilateral triangles may not encompass triangles that are "roughly" triangular in Claim 2. However, Con may argue they do. The bolt's recess shape is a square, reading on Claims 1 and 2. Con may be able to argue inherent anticipation, arguing that his bolt is a threaded shaft, and Pat's is simply a threaded shaft with a point, meaning Con's threaded shaft element is inherent in Pat's threaded shaft element. Pat may be able to preclude anticipation if he can argue the specification informs that "shaft" is meant to be a pointed screw shaft.

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§103- Obviousness

Under §103, a patent may not be obtained on an invention if, viewing the claims as a whole, the differences between the prior art and the claimed invention would have been obvious at the time of filing. Unlike §102, §103 does not require that any one reference contain "all the elements" of the invention. More than one reference may be used to invalidate a patent, provided the reference is within the analogous art. To determine obviousness under *Graham*, one must 1) determine the prior art's scope and content, 2) differentiate the prior art and claims at issue, 3) determine the ordinary skill in the art, knowing the PHOSITA is aware of all the art, 4) determine whether the claimed subject matter is obvious, and 5) optionally consider secondary considerations. Such considerations may include commercial success, fulfilling a long-felt, unsolved need, failure of others, unexpected results, and if the prior art taught away from the claimed invention. *Graham.* Predictability is the touchstone for obviousness, though this must be evaluated without hindsight bias.

Con will argue Pat's screw is obvious over his PCT application and the '837 patent. Con will argue that putting the head of his bolt on the body of a screw like Phillips's would be obvious to a PHOSITA. While the bolt is prior art, Pat can argue a bolt is non-analogous art and thus a PHOSITA would not think to use it as an influence. Pat will argue the screws and bolt fields are different, and securing wood is a different field than securing into a nut. Con will argue for a broader field, perhaps simply securing, so his bolt will be analogous. Pat will counter that the bolt was not featured for its ability to avoid stripping, and that avoiding screw stripping is a entirely different problem to be solved than fastening a bolt into a nut. Thus, a bolt is not pertinent to the problem the screw would solve. Pat will also argue screw stripping is an "age-old" problem, and his invention solves a long felt, unsolved need. Con will counter Pat's

invention doesn't actually solve the problem in practice and that there was a teaching, suggestion, and motivation to combine the bolt head and screw shaft together. As this is not dispositive under *KSR*, however, Pat's non-analogous art argument is likely to win the day.

Q2: INFRINGEMENT

Under §271, whoever, without the patent holder's authorization, makes, uses, sells, offers to sell, or imports a patented invention may infringe the patent. Infringement does not require proof of access or intent. To analyze liability, the plaintiff's claims must be compared to the item allegedly made/used/sold/offered for sale in an infringing way. While the meaning of claim language will be decided by the judge in a Markman hearing, a jury will usually determine whether the claims cover the accused product.

Pat will argue Con's bolt literally infringes his patent. For literal infringement, the all-elements rule applies. Thus, the accused device must contain all elements of the patented invention. Claim language is an important starting point. *Merril v. Yeomans*. Claims terms are first interpreted as to the ordinary meaning to a PHOSITA at the time of filing, provided the patentee did not act as her own lexicographer. *Markman.* Then, intrinsic evidence (specification and prosecution history) are used to further inform interpretation. *Phillips*. Only if the terms are still ambiguous may a court look to extrinsic evidence, such as expert testimony. *Phillips*. Claims should be interpreted to preserve validity when possible. *Phillips.* Once claim language is construed, the all-elements rule is applied.

As that which would anticipate if disclosed before Pat's filing would infringe if disclosed after, Pat should be careful about choosing to make this argument, as Con filed first and Pat would not want an infringement argument to backfire, invalidating Pat's patent under AIA §102. However, if he proceeds, Pat would argue Con's US patent application is infringing (note: Con's

US application may backdate to his PCT filing before Pat's filing). Literal infringement requires Con's bolt to have a "centralized" recessed portion for Claim 1 and a "square" recess for Claim 2. Based on Con's drawing, this appears to be encompassed. Con's bolt must also have one or more outward protruding winged portions for Claim 1, and wings must be "roughly triangular" for Claim 2. Con's bolt appears to have winged protrusions for Claim 1, though Con may argue that his wings are equilaterally triangular and not "roughly" triangular as described in Claim 2. Pat will argue Con also has a threaded shaft, which the bolt appears to have. Con may argue that "shaft" implies a screw shaft as informed by the specification. Pat may counter any mention of a screw in the preamble should not be used as a limitation. Con will argue that the word "screw" is itself a limitation, preventing literal infringement.

If they do not literally infringe, Pat may argue Con's bolt shaft is a screw shaft equivalent and the bolt's triangular wings equivalate to "roughly triangular." An element in an accused device is an equivalent of a patented element if the accused element does the same work, in substantially the same way, to provide substantially the same result. *Winans.* According to *Warner-Jenkinson*, the Doctrine of Equivalents is applied on an element-by-element basis.

Pat may argue the shafts do the same fastening in the same way (rotating downward with threaded shaft), to provide the same result (connected materials). Con will raise Pat gave up all wing shapes via prosecution history estoppel when he claimed "roughly" triangular wings, which does not include perfectly triangular wings. *Festo.* Pat will argue the amendment may apply to wings but does not tangentially relate to the shaft, and thus the shaft may have an equivalent. However, if Pat equates these inventions too much, his previous non-analogous art argument in Q1 may fail.

Con can assert the above non-infringement defenses, as well as invalidity defenses (outlined in Q1) and unenforceability defenses. If Con can find that Pat intentionally avoided disclosing prior art material to patentability during prosecution, Con may also get Pat's patent invalidated for inequitable conduct.

Q3: PRE-AIA VALIDITY ANALYSIS

Pre-AIA (1952 Act) law differs from AIA because a patentee's rights stem from the invention date, rather the filing date. "Invention" requires both conception and reduction to practice. Conception occurs when the inventor has a complete mental picture of the invention. Reduction to practice can be actual (built invention) or constructive, meaning the inventor described the invention in such detail as to enable it.

Pre-AIA §102(a) states that a person is entitled to a patent unless the invention was known or used by *others* in *this* country, or patented or described in a printed publication in this *or* a foreign country, before the *invention thereof* by the patent applicant. Here, if the IKEA screws were only *used* abroad under §102(a), they would not count as prior art. Prior uses must be in the United States to qualify. It seems unlikely this occurred, however, in which case they are still prior art. The '837 patent is also still prior art, as it issued in 1936, before Pat's invention. However, the professor's publication would not be prior art, as its 6/1/15 publication date is after Pat reduced to practice in 2014.

Under §102(b), if Pat only sold his screws abroad, Pat would not anticipate himself, as only "sales in *this* country" (the US) are anticipatory. If Pat did sell in the US, though, he would still be barred. The IKEA screws would only be prior art if sold in the US.

Pat did not appear to abandon his invention and Con filed his US application within a year of the PCT, so §102(c) and §102(d) are not respectively implicated.

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Under §102(e), Con could not assert the PCT filing date against Pat because his PCT did not publish in English. He would have to use his US filing date, which is 1/1/16, barring Con from asserting priority over Pat, who filed in the US on 12/31/15.

Under §102(g), if it is found that Pat and Con are claiming the same invention, Pat may be able to assert priority over Con. Pat conceived of his invention in March 2014 and constructively reduced it to practice at least by June 1, 2014 when he sent off plans to enable a manufacturer to make it. Con can prove reduction to practice in May of 2014. Even though Con reduced to practice first, Pat can claim his date of conception as his invention date provided he shows reasonable diligence from March 2014 until June 1, 2014. *Barbacid.*