

Question 1: Validity of '123 Patent**A. Subject Matter (101)**

Determining whether the invention's subject matter is patentable is the first hurdle to overcome in determining the validity of a patent. This is a low hurdle since "anything under the sun made by man" is patentable subject matter, except laws of nature, physical phenomena, or abstract ideas (*Chakrabarty*). A challenger might argue that Pat's invention is directed to an abstract idea of maintaining distance to minimize the spread of infection from coronavirus (spatial awareness). However, Pat can overcome this challenge by arguing that the claim is not directed to the abstract idea of physical distancing, but the apparatus itself to produce such a result. Further, even if this was an abstract idea, Pat can argue that there are enough inventive steps to transform the invention from the abstract idea to patentable subject matter (*Alice, Mayo*).

B. Utility (101 & 112)

To determine whether the invention has utility for patentability, the invention must have operable, beneficial, and practical utility. To determine operable utility, the inventor must show that the invention works for its intended purpose. An invention is presumed to be operable by the Patent and Trademark Office (PTO) unless it is inherently unbelievable by a person skilled in the relevant art (PHOSITA) (*In re Brana*). Here, there is operable utility since the invention works from the prototype and there are similar inventions already in use that show it is not inherently unbelievable. Beneficial utility shows that invention has no social harm or deleterious purpose (*Juicy Whip*). Courts have also upheld patents where there is a cheaper market alternative even though it may not be an improvement over current market choices. There is beneficial utility for

Pat's invention since the invention does not have any social harm and is a possible market alternative to similar inventions on the current market. To determine if there is practical utility, the invention must provide a significant, presently available, well-defined, and particular benefit to the public (*In re Fisher, Brenner*). Practical utility, more generally, can be broken up into two aspects: specific and substantial. Here, Pat's invention has specific utility, since he claims a device to that physically distances people from the wearer. Pat's invention also has substantial utility because this device has a real-world use, especially in this time where it is very relevant to the world to maintain distances to prevent the spread of the virus.

C. Adequate Disclosure (112)

a. Enablement (112(a))

To determine whether there is adequate disclosure, the inventor must have described the invention clearly enough so that a PHOSITA can understand it well enough to make and use the invention without undue experimentation (*The Incandescent Lamp Patent*). Enablement is determined claim-by-claim, as of the application filing date (4/7/21) and in relation to the technology available. Whether a disclosure would require undue experimentation is determined by the *Wands* factors: quantity of experimentation necessary amount of direction presented, presence of working examples, nature of the invention, state of the prior art, relative skill of those in the art, predictability or unpredictability of the art, and breadth of the claims.

Both claim 1 and 2 are broad claims. Claim 1 identifies that the device supporting members are to "worn around the neck or shoulder area," which is also identified in the specification. Although, there is some information for a PHOSITA to make and use Pat's

invention from claim 1 generally, there is an issue with specifics of the claim for a PHOSITA to make and use the invention. There is not enough, specific information for how to make the invention from “other cylindrical structure” or “one or more support members.” A PHOSITA could use a varying amount of support members for the device and different type of cylindrical structures (like a cone or a cylinder that has added structures on the sides). There is not a description of what kind of support members are used, like rope, bungee cord, ribbon, and it leaves open that there could be many possibilities and unpredictability of the types that can be used. Also, sometimes the ropes are moved so that the hoop does not maintain the distance and a PHOSITA would try different amounts and types of supporting members and types of structures so prevent that issue. Since Pat is leaving too much room for variations in claim 1, he is claiming a limitless amount of inventions to maintain physical distances. This is similar to when Sawyer and Mann claimed “all fibrous or textile material” in *The Incandescent Lamp Patent*. Although there are examples from other inventors that have similar working devices, they do not help in enabling Pat’s claim because none have similar supporting members to allow the hoop to be suspended. However, Pat could argue that a PHOSITA could determine the number of supporting members without undue experimentation because the hoop or cylindrical structure would be symmetrical to a flat plane or not, an easy indication. He might also counter to say that he did not specifically claim to maintain a 6-foot distance, only to “distance infectious bystanders,” and a PHOSITA would understand this to be 6-feet in light of the current times. Although there may be some weight to these arguments, in light of the numerous variations for a PHOSITA to experiment on the number of supporting members and their compositions, claim 1 is unlikely enabled.

As stated before, claim 2 is also broad. It claims that the hoop can be worn “anywhere on the body,” which adds even more variations than from the first claim. Pat would argue that in a way this also limits claim 1. By being able to adjust the support members to any length so that the hoop can be worn anywhere on the wearer’s body, a PHOSITA could figure out the length and amount of support members. A PHOSITA would just need to determine where they wanted to have the hoop (waist height, shoulder height, etc.) and the supporting members could easily be ascertained from this body positioning. The broad claim in claim 2 is similar to an adjustable type of hoop device. A PHOSITA would read claim 2 and understand that the hoop can be anywhere on the height of the body; they would not really have to experiment, they would just pick a height and the resulting measurements and number of straps would ensue. The specification teaches a PHOSITA how to make and use the *full scope* of the claimed invention without undue experimentation (*Warner-Lambert*). Claim 2 is likely enabled.

b. Written Description (112(a))

To determine whether there is sufficient written description, it must reasonably convey to a PHOSITA that the inventor had possession of the claimed subject matter as of the filing date (*Ariad*). This issue often arises when the patent applicant claims too broadly or where there is no possession of the invention. These issues are present in Pat’s situation. For claim 1, Pat cannot show that he was in possession of the invention as of 4/7/21. Pat cannot show she was in possession of all supporting member compositions when he discloses “other supports” in addition to straps and ropes. Under *Gentry Gallery*, patent claims cannot be broader than the supporting disclosure and a narrow disclosure limits the claim’s breadth. In the specification, Pat discloses that the “hoop [is suspended] about the body of the wearer”, and in claim 2 he discloses

that the hoop can be “worn anywhere on the wearer’s body.” The specification did not limit the claim’s breadth and the claim is within the specification. Although broad, claim 2 has a sufficient written description that shows Pat had possession of all heights of the hoop that encompass “about the body of the wearer.”

c. Definiteness (112(b))

Definiteness of the specification notifies the PHOSITA of the metes and bounds of the invention so that he or she does not infringe the invention (*Orthokinetics*). A PHOSITA needs to be informed with reasonable certainty, light of the prosecution history and specification, about the scope of the invention (*Nautilus*). Pat’s invention has a spacing issue very similar to the spacing issue in *Nautilus*. Pat’s specification says that there are “one or more support members” and that they are attached “sufficiently sized to distance the wearer from infectious bystanders.” This is similar to “in spaced relationship with each other” for the electrodes in *Nautilus*, where challengers argued that “those words did not tell anyone what precisely the space should be or any parameters for determining the spacing relationship.” Here, the lengths of the supporting members could vary depending on the height of the hoop. For claim 1, a PHOSITA would not know if he or she is infringing due to the indefiniteness of the support members. For claim 2, Pat seems to claim the entire body area to wear the device. A person only has from their feet to their head to wear the device, so this is not indefinite because it tells a PHOSITA that from feet to head (“about the body”) a similar device would be infringing.

D. Prior Art (102)

To determine the prior art, the reference must have existed before Pat's filing date (4/7/21). References that are prior art against Pat under 102(a) would preclude the novelty of his invention. However, there could be exceptions that excluded the prior art from anticipation analysis under 102(b).

a. Hula-Hoop

The Hula-hoop is prior art under 102(a)(1) since it has been in use since the 1950s, well before Pat's filing date.

b. Barrel Man

The Barrel Man's outfit is prior art under 102(a)(1) since it has been in public use since the 1970s, again before Pat's filing date.

c. Pat's Prototype

Pat's own prototype of his invention was completed on 4/1/20. For this date, Pat can argue that this is not prior art under 102(a)(1) because he maintained control over the prototype and it was not in public use, only a private use (*Moleculon*). However, on 4/7/20 he used the prototype on the streets and attracted reporters. This is a public use under 102(a)(1) and is prior art. Pat could argue that this was an experimental use, an exception to a public use, under *City of Elizabeth*. To that determine an experimental uses there needs to be a "good faith effort to bring the invention to perfection or to ascertain whether it will answer the purpose intended" (*City of Elizabeth*). Pat found that the hoop worked, but discovered issues with the invention as well. More facts would be needed to determine whether this exception applies to Pat (whether he inspected it daily, asked questions, corroboration by witnesses). The prototype was definitely prior art as a public use or public knowledge under 102(a)(1) by 4/9/20, when the news aired his invention on.

Under 102(b)(1)(A), the 4/7/20 public use by Pat and the 4/9/20 TV airing can be excluded as prior art since they occurred within a year before Pat's filing date and were disclosures by Pat or subject matter obtained by Pat (TV airing).

d. Distancing Dress (DD)

Fashion House China (FHC) came out with the DD prototype on 3/25/20 and filed a Chinese application on 4/8/20. This published on 10/8/21. Since FHC filed a US application within a year (4/8/21) of the Chinese application, it effectively claimed priority to the Chinese application for its effective filing date. Therefore, the DD has a filing date of 4/8/20. This is prior art against Pat under 102(a)(2) since it occurred before his filing date.

e. Mega Hoop Distancer (MHD)

KORU released the MHD on 5/1/20. This is prior art against Pat under 102(a)(1) since it is a public use or public knowledge before his filing date. However, it could be excluded as prior art under 102(b)(1)(A) since KORU obtained the subject matter disclosed from Pat's prototype within a year of Pat's filing date.

f. Twitter Photo

The Twitter photo that was posted 3/20/20 was a publication under 102(a)(1) since it is publicly accessible (*Klopfestein*). This is prior art against Pat's invention.

E. Novelty/Anticipation (102)

Anticipation requires the all-elements rule: "each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference" (*Robertson*). To establish inherency, the reference must predictably and regularly disclose the claimed invention, but "recognition in the art" is not required (*Schering*). The relevant elements of Pat's invention

are the supporting members (one or more), the hoop/cylindrical structure sufficiently sized, and the location of the hoop on the wearer's body.

a. Hula-Hoop

The hula-hoop does not anticipate Pat's invention because it is only one element (hoop) of Pat's invention.

b. Barrel Man

From the picture, it seems like the Barrel Man's outfit some the elements from Pat's invention: a strap, a barrel, and it is around the man's body. This prior art reference, although has the cylindrical structure, the structure is not sufficiently sized to keep physical distances. It does not anticipate Pat's invention.

c. DD

The DD has a hoop, but adds more, differing elements compared to Pat's invention. The DD is a dress and does not have separate supporting members. This does not anticipate Pat's invention.

d. Twitter Photo

The Twitter Photo's invention does not have the elements (hoop, support members) of Pat's invention and does not anticipate his invention.

e. Conclusion

The effective prior art against Pat does not anticipate his invention.

F. Obviousness (103)

To determine obviousness of Pat's invention in light of the prior art, the court asks whether a PHOSITA would select the patented elements to combine when faced with the same problem.

This is determined under the *Graham* test.

a. Determine the scope and content of the prior art

Analogous art is used in this analysis. Analogous art is art from the same field regardless of the problem addressed or, if the not in the same field, whether the reference still is reasonably pertinent to the particular problem faced by the inventor (*In re Clay*).

The field here is distancing devices that maintain distance from other people or objects. The hula-hoop and Barrel Man's outfit are not analogous art since it is not in the same field and not pertinent to the problem of maintaining distances. The DD and the Twitter Photo device are analogous art since it is in the same field as physical distancing devices.

b. The differences between prior art and the claimed invention

The DD is a dress with a hoop built in. The hoop has a 6-ft diameter and 3-ft radius. The dress ensures that people can wear it at the same height. Pat's invention is 12-ft diameter with a 6-ft radius, the hoop size is bigger than DD's hoop. Pat's invention has one or more straps or supporting members, where they can be adjusted to the hoop to vary where the it suspends from a person's body. The Twitter Photo device goes on a person's head and had foam noodles that extend outwards from and around the head. The radius of the noodles is probably the same as Pat's radius. Pat's invention uses a hoop to maintain distance rather than noodles that extend outwards.

c. The level of ordinary skill in the art

A PHOSITA knows all of the art in the field (*Winslow*). For example, a PHOSITA probably is “working in his shop with the prior art references — which he is presumed to know — hanging on the walls around him” (*Id.*)

d. Determine the obviousness or nonobviousness of the subject matter

A court would probably find Pat’s invention is obvious due to at the time of invention, the CDC had guidelines to maintain 6-ft apart to minimize the spread of the virus. Also, the DD tells a PHOSITA about the hoop spacing connected to something to wear, but does not have a 6-ft radius. The Twitter photo was posted during the spread of the virus so it is assumed that it maintains the 6-ft distance. In light of the prior art combinations and the time of invention, Pat’s invention was obvious to try, and therefore obvious (*In re Kubin*). Pat’s invention is obvious because it is predictable and expected to succeed.

e. Secondary considerations

Secondary considerations like commercial success, failure of others, or long felt, but unsolved need to solve the problem may be considered by the court. DD’s dress does not have commercial success so it seems as it does not solve the physical distancing problem. The Twitter photo seems like a homemade solution meant for one person to maintain distance. A court might consider that physically distancing in today’s world right now is incredibly important to stop the spread of coronavirus, so it might not want to put a monopoly on such a crucial invention.

Question 2: Infringement Claims by Pat

Pat will sue KORU for infringement of his device by the MHD. Under 271(a), direct infringement may be proven under literal infringement, where an accused product must contain all the elements in the patented claims (*Larami*). Court will construe the claims as a matter of

law at a Markman Hearing. In doing so, the claim language provides a starting point to determine if the MHD contains all the elements of Pat's device (*Yeoman*). Other parts of the patent document may be used too, like the specification, drawings, or prosecution history. The claim language is given its ordinary meaning to a PHOSITA in the context of the patent. Likewise, intrinsic evidence is considered first, then, only when ambiguity persists, extrinsic evidence (experts, dictionaries) may be consulted (*Phillips*).

a. Hoop or cylindrical structure

The claims describe this structure to be sufficiently sized to distance the wearer from infectious bystanders. The specification says that the hoop is suspended about the body of the wearer so people cannot come within the perimeter of the hoop. The MHD accused device has a hoop or cylindrical structure that is suspended about the body of the wearer (element 22). Pat will argue this is the same to his claims and the accused device falls within the scope of his patent.

b. One or more support members

The claims describe the support members as attached to the hoop and then worn about the neck and shoulder area. The second claim says that the hoop structure can be worn anywhere on the wearer's body. A PHOSITA would think that this means the supporting members are worn at the shoulder and neck area and then the hoop can be adjusted via the supporting members to adjust the hoop's suspension on the body. The MHD has one or more supporting members (element 30). It specifically has three. Pat will argue that the number still comes within the scope of his claims (one or more). KORU will argue that if it meant that he should have put that exact wording, otherwise a difference is presumed. Also, KORU will argue that the supporting members are not adjustable since they are fixed to fastening device (10). Since this element is

ambiguous as to how many supporting members are claimed, prosecution history may need to be consulted to see how many members Pat normally had in his prototype.

c. Location of hoop on wearer's body

Claim 2 describes that the hoop can be worn anywhere on the wearer's body. MHD can also be worn anywhere on the body. Pat will argue this infringes as it is the same as his claim 2. KORU will argue that Pat's claim and specification give a meaning to the claim that it is only adjustable to different parts of the body and not physically worn on different parts of the body, like MHD.

d. Additional elements (by KORU)

MHD has many additional elements. The supporting members are attached to a device that is adjustable (elements 10 and 11), which can be worn anywhere on the body, not just the neck and shoulder area. Also, the hoop has elements 40 and 41 that seem to be support on the hoop.

e. Conclusion

A court will probably find MHD infringing since it contains all elements of Pat's claims, although extrinsic evidence would probably need to be consulted. Although some elements differ, they come within the scope of Pat's claims. Furthermore, even though there are additional elements in MHD, these same, basic elements the Pat claims.

Question 3: Infringement via DOE for Claim 1 by Pat

The Doctrine of Equivalents (DOE) will enlarge patent claims beyond what their meanings bear. Infringement under DOE occurs when accused product performs substantially the same function in substantially the same way with substantially same result (*Graver*). Each

elements of the patent needs to be analyzed to see if there is an equivalent element in the infringing device.

Pat will argue that the waist support in MHD is equivalent to being worn around the neck and shoulder area. KORU states that the waist support can be worn around the neck and shoulder area. Pat will argue that the ability of the waist support to be versatile enough to be worn anywhere, it performs the substantially same function (maintain physical distance through the suspended hoop) in substantially the same way (worn on the neck and shoulder area) with the same result (maintain physical distance). Likewise, Pat actually claimed the neck and shoulder area element in his patent, unlike the patentee in *Johnson & Johnson*, where he did not claim the specifically aluminum and only metal alloys. The patentee in that case could not use DOE for something he did not claim.

KORU will argue that just because its prototype is capable of being worn on the neck and shoulder area does not mean it infringes. Similar to Judge Hands analysis in *Wright Brothers*, MHD waist support do not cause the device to be worn on the neck and shoulder area (it is not made for it), but only that the support members are capable of it (it can be worn anywhere). KORU will argue that, under *Winans*, the equivalents analysis cannot expand patent rights to cover obvious extensions of the prior art. The Twitter Photo taught that there is a type of support that can be worn around the head. MHD effectively contributed an extension of that prior art to allow the support system to be more versatile on the body. Pat's patent does not claim such an extension, only supporting members worn on the neck and shoulder area. Pat cannot claim something that goes beyond his contribution because in light of what is already prior art, it would not be fair to allow him to extend what he already claims (*Wright Brothers*).

Question 4: 1952 Act

Under pre-AIA, the invention date is critical date. The invention date the invention is reduced to practiced (RTP) or through constructive reduction to practice (filing a patent application). Pat reduced his invention on 4/1/20, when he created his prototype. His filing date is still 4/7/21.

a. Hula-Hoop and Barrel Man

Under 102(a), the hula-hoop and Barrel Man is still prior art since they were known or used by others in the United States since 1950 and 1970, well before Pat's critical date.

b. Pat's street use

The street use is not prior art under 102(a) since it occurred on 4/7/20, after his invention date. The TV report also is not prior art under 102(a) since it occurred on 4/9/20. Under 102(b), these occurred within a year before his filing date, so they do not bar patentability.

c. DD

DD has an invention date of 3/25/20 in China (assumed it was made in China). DD has a US filing date on 4/8/21. Likewise, the China application was not a PCT designating the US, nor did it have an English translation. The US filing date cannot be backdated here under 102(e) and it is not prior art against Pat. Under 102(b), pre-AIA looks to the earliest US filing date and not the global filing date. Therefore, DD has a critical date of its US filing date, 4/8/21. This is one day after Pat's filing date and also after his invention date, therefore Pat is not barred from patentability.

d. MHD

MHD was released on 5/1/20. This is not prior art against Pat.