

**QUESTION 1****I. Section 101—Patentable Subject Matter**

Section 101 provides that patent protection may be afforded to a new and useful “process, machine, manufacture, or composition of matter, or any . . . improvement thereof.” Non-patentable subject matter includes laws of nature, physical phenomena, and abstract ideas. Chakrabarty; Bilski. Here, Claims 1 and 2 describe a “cable assembly,” which is an apparatus, and does not likely fall under one of the excludable subject matter forms.

**II. Section 112 Requirements****A. Utility**

For an invention to be considered “useful” three types of utility must be present: (1) operable utility; (2) beneficial utility; and (3) practical utility. Utility must be shown at the *time of invention* for every claim. For operable utility, the invention must work for its intended purpose, and cannot be *inherently unbelievable* (in the eyes of a PHOSITA). In re Brana. Here, Claims 1 and 2 are not inherently unbelievable. Both claims provide sufficient information to ensure that PHOSITA would believe that the invention claimed in Claims 1 and 2 actually worked. Beneficial utility is not likely an issue because Pat’s patent (Claims 1 and 2) provides a benefit to society in preventing tangled headphones, and is not *frivolous, injurious to society, or immoral*. Lowell v. Lewis; Juicy Whip. Finally, Pat’s invention likely meets the practical utility requirement, which requires both *specific* and *substantial* utility. In re Fisher. Claims 1 and 2 meet both provide a *well-defined and particular use* to the public in preventing electrical wires, and more

specifically headphone wires, from becoming tangled, which is a *significant utility* that is also presently available. The ‘123 patent likely meets the low utility bar.

**B. Enablement**

An invention is not properly enabled if it would take *undue experimentation* for PHOSITA to make or use the claimed invention based on the specification. Incandescent Lamp. Enablement is measured on a claim-by-claim basis at the *time of filing*. Janssen. The specification does not need to provide every embodiment of the invention because the PHOSITA is one of ordinary creativity and can fill in gaps, so long as it does not require undue experimentation.

Claim 1 describes zipper teeth, which are to be “molded to” the thermo-resistant material, but it does not provide how such teeth are to be molded. In addition, the zipper teeth are supposed to be “releasably attached,” but the claim fails to explain what that term means. There may be problems with the material of the zipper teeth, especially because the wires transmit electricity, certain substances like metal, may not work for the zipper teeth. It is unclear whether the zipper teeth should also be made out of the thermo-resistant material, and whether this would have any effect on the transmission of electrical signals through the wires. While the invention does not appear to be too complex, it involves the transmission of electrical signals, which can be interrupted by external forces. The prior art does not seem to shed too much light on the issue because the two references are to non-electronic devices (zipper shoelaces and necktie). Nevertheless, PHOSITA would likely be able to make and use invention based on the claims and specification.

**C. Written Description**

Written description requires the disclosure to reasonably convey to PHOSITA that inventor was *in possession* of the claimed subject matter at the *time of filing*. Gentry Gallery; Ariad Pharma. The test is subjective, and looks to whether PHOSITA would believe Pat was actually in possession of the invention when the application was filed. Pat did not amend the claims of the invention, so must look to whether claims are too broad. Neither claim is overly broad, as Claim 1 describes a cable assembly attaching two electrical wires, and Claim 2 focuses specifically on a headphone assembly. Therefore, the claims are sufficiently descriptive.

**D. Definiteness**

Definiteness requires the claims to adequately describe the metes and bounds of the patent. The test is whether PHOSITA would understand what is claimed when the claim is read in light of the specification. Orthokinetics. For a claim to be found indefinite, the claim must be *insolubly ambiguous*. Standard Oil Co. A claim is not insolubly ambiguous if it can be construed, even with difficulty, in light of the specification and perspective of PHOSITA. Here, Claims 1 and 2 are both sufficiently definite to allow PHOSITA to understand what was claimed in each, especially after reading the detailed specification.

**III. Section 102—Novelty & Statutory Bars****A. Date of Invention**

The *date of invention* occurs at the point of reduction to practice (RTP). An inventor is considered to achieve RTP when the inventor has practiced an embodiment of the invention encompassing all elements and appreciated that the invention works for its intended purpose. Barbacid. Evidence of RTP must be corroborated, or else the date of filing is used, which constitutes *constructive RTP*.

Here, Pat appears to have conceived the invention on July 1, 2008, after hearing about the zippered shoelaces in France. However, Pat did not begin working on reducing the idea to practice until July 1, 2009. Pat's actual RTP occurred on October 1, 2009, which is likely the date of invention. If Pat's RTP could not be corroborated, then the constructive RTP would be the date of filing, Jan. 1, 2010.

Another Inventor (AI) had the idea for zippered jumper cables on June 15, 2009, which is after Pat's original conception, but before he began to attempt any semblance of RTP. From then, he completed a prototype by September 1, 2009, which constitutes RTP, and is likely AI's date of invention. AI filed for a patent on December 1, 2009, which would serve as AI's constructive date of invention if unable to corroborate the September. However, AI abandoned the application due to lack of funds.

**B. Novelty (§ 102(a))**

The '123 patent will be challenged for lack of novelty. Under § 102(a), an invention is not novel if it was *known or used* by others in this country, or if the invention was *patented or described in a printed publication* anywhere in the world, *before the date of invention*. In order for prior art to anticipate a claimed invention, *every element of the claimed invention* must be disclosed *in a single reference*, either *expressly or inherently* described. In re Robertson.

Here, the two pieces listed as prior art are the French advertisement for zipper shoelaces and the U.S. patent for the zipper necktie. First, the advertisement for the zipper shoelaces may constitute a printed publication. For printed publication, *dissemination* and *public accessibility* are key. In re Klopfenstein. The ad was published in a French magazine on Dec. 1, 2008, which is well before Pat's date of invention, and the likely meets the dissemination and public accessibility requirements for a printed publication (there would not be advertisements in the magazine if it was not intended to reach the public). However, because the reference is a picture, it must enable a PHOSITA to make and use the invention. Jockmus. The zipper shoelace ad does not effectively enable Claim 1 or 2, and thus does not constitute a prior art reference.

More importantly, the reference does not contain all of the elements described in Claims 1 and 2. The ad for zipper shoelaces does not disclose the cable assembly, electronic wires, or thermo-resistant material from Claim 1. As for Claim 2, the ad does not disclose the cable assembly from Claim 1, or the headphone assembly from Claim 2. One could make a doctrine of equivalents argument that the shoelaces operate the same way as the wires in Claim 1, but this is unlikely to be a successful argument.

Also, an argument can be made that the zipper shoelaces were known or used by others based on Helpful Friend's (HF) conveyance of the information to Pat. For an invention to constitute prior art known by others, the reference must have been publicly known or used, which requires *reasonable accessibility* to the public. Nat'l Tractor Pullers; Rosaire. However, the known or used requirement only applies to public knowledge and use in this country, not abroad. Therefore, public use in France would not constitute a prior art reference. On the other hand, if knowledge and use had spread to

the U.S. this could anticipate the ‘123 patent, if the zipper shoelaces contained all elements of Claim 1 or 2. Again, it does not contain all elements.

Second, the zippered necktie was patented in 1954. All U.S. patents issued prior to the date of invention constitute prior art. Bruckelmyer. Here, the zipper necktie was patented in 1954, well before Pat’s date of invention. However, the necktie does not anticipate Claim 1 because it does not contain the electronic wires or thermo-resistant material, and does not anticipate Claim 2 because it does not contain a headphone assembly. Again, an inherency argument can be made that the bolo tie is equivalent to the wires in the ‘123 patent, in which case the zippered necktie would anticipate Claim 1, but probably not Claim 2, which requires the wire to transmit audio sound.

Third, AI’s patent application for the zippered jumper cables may constitute prior art as well depending on Pat’s date of invention. AI filed the application on 12/1/09, which is before Pat’s date of invention if using Pat’s filing date of 1/1/10. However, so long as Pat can provide clear and convincing evidence of TRP, then his date of invention will be considered 10/1/09, which is before AI filed its application.

**C. Statutory Bars (§ 102(b))**

The validity of the ‘123 patent can be challenged on the basis of statutory bars pursuant to § 102(b). Statutory bars are triggered by events *after* the date of invention; the critical date is the *date of filing*. Here, the critical date is one year prior to Pat’s filing date, Jan. 1, 2010, which is Jan. 1, 2009. Because Pat filed for a patent less than one year after reducing the invention to practice (Oct. 2009 to Jan. 2010 = 3 months), § 102(b) does not admit additional prior art references other than those considered under § 102(a). Furthermore, there are no facts to suggest that Pat sold or used his invention prior to

filing the application. Therefore, there is no need to consider experimental use (City of Elizabeth) or public use (Egbert; Beachcombers; Moleculon).

**D. Abandonment (§ 102(c))**

Under § 102(c), a patent is invalid if the person has “abandoned the invention.” Only the inventor can abandon the invention, either by: (1) expressly abandoning the invention to the public; or (2) practicing the invention as a trade secret for less than one year then filing application. Macbeth. Pat did not abandon the invention expressly, and did not practice the invention as a trade secret before filing.

**E. Patent Application Prior to Date of Invention (§ 102(e))**

Under § 102(e), a patent is invalid if *every element* of a claim was described in an *application* filed in the U.S. prior to the date of invention, or a patent was granted on an *application filed before the date of invention*. Thus, AI’s patent application for the zippered jumper cables likely constitutes prior art under § 102(e). AI filed the application on Dec. 1, 2009, which would come before Pat’s date of invention if using Pat’s filing date of Jan. 1, 2010. If AI’s patent application were prior art, it likely includes all elements of Claim.

**F. Derivation (§ 102(f))**

Under § 102(f), a person is not entitled to a patent if the person did not invent the subject matter sought to be patented. The derivation inquiry is a global inquiry. Help from another person is not derivation unless the assistance: (1) encompasses the plan of improvement (possesses all elements); and (2) is fully enabling. Agawam; Campbell. Here, derivation is not a major issue, but Pat did receive help from HF before conceiving

the invention in Claims 1 and 2. HF told Pat about the zippered shoelaces, but these do not possess all of the elements in Claim 1 or 2. In addition, the information was not fully enabling because Claims 1 and 2 use electrical wire and thermo-resistant material.

Therefore, Pat was the actual inventor, and did not derive the idea from another.

**G. Priority (§ 102(g))**

Section 102(g)(1) only applies during interference proceeding. Section 102(g)(2) applies if the invention was made first by another in the U.S. who *did not abandon, suppress, or conceal* that invention. In general, the first to reduce an invention to practice has priority. The first to conceive will prevail over the first to reduce to practice if the first to conceive was diligent from a time prior to the other inventor's reduction to practice through the inventor's own reduction to practice (either actual or constructive). If first to conceive is second to reduce to practice, must show diligence to reduce, which means *steady, industrious efforts*. If there is no diligence to reduce, then the first to reduce wins. Here, Pat's RTP was on 7/1/09 over a year after his date of conception 7/1/08. In the meantime, AI conceived zippered jumper cables on 6/15/09, prior to Pat's RTP, and reduced to practice by 9/1/09. Because Pat was still the first to RTP he still is considered the first to invent, and therefore has priority over AI for purposes of filing.

**IV. Section 103—Obviousness**

The obvious inquiry looks to technical triviality, not economic, at the *time of invention*. Courts apply the five-part Graham test to determine whether a claim or invention is obvious: (1) determine scope and content of prior art; (2) ascertain differences between prior art and claims at issue; (3) find level of ordinary skill in the

*pertinent* art; (4) determine whether subject matter is obvious; and (5) weigh secondary considerations to determine obviousness. Graham. The all elements rule does not apply in the obviousness analysis. Here we must address whether the prior art, including the zipper shoelaces and zipper tie, render the '123 patent obvious.

First, we must determine the scope and content of the prior art. In general, all references that constitute prior art under § 102 also constitute prior art under § 103 for obviousness, so long as the art is *pertinent*. Hazeltine; In re Bass; OddzOn; In re Foster. Therefore, we must determine whether the prior art is *pertinent*, so we look to: (1) whether the reference is from the *same field or endeavor*, regardless of the problem addressed; or (2) if the reference is not within the field of the inventor's endeavor, whether the reference is *reasonably pertinent to the particular problem* with which the inventor looks to solve. In re Clay. Here, neither the zipper shoelaces nor tie are in the same field or endeavor, but may be reasonably pertinent to the particular problem Pat intended to solve. Therefore, these references are likely pertinent, but are very far from what an ordinary PHOSITA would consider.

Second, the differences between the prior art and the claims at issue. Here, Pat's invention focuses on preventing tangled cables, not shoelaces or ties. Therefore, Pat's invention focuses on adhering a zipper to covered electrical wire, which serves an entirely different purpose than the prior art.

Third, when determining the level of ordinary skill in the art, the PHOSITA is a person with ordinary skill *and creativity*, meaning that PHOSITA can combine different prior art references. KSR. For purposes of obviousness, PHOSITA knows all pertinent

art. In re Winslow. Here, a PHOSITA would be an electrical engineer, or at least an electrician, with reasonable experience with electrical wires.

Fourth, in order to determine whether subject matter is obvious, one must determine whether PHOSITA would have come up with the patented claims after looking at the prior art. Obviousness requires more ingenuity and skill than that possess by an ordinary mechanic in the trade. Hotchkiss. Here, Pat's invention was not likely obvious, because a reasonable electrician or electrical engineer would not have readily combined a zipper with electrical wires. Finally, we must consider the secondary considerations provided by the court in Graham: (i) commercial success; (ii) long-felt but unsolved needs; (iii) failure of others; (iv) unexpected results; (v) copying others. Simultaneous invention by multiple individuals weighs in favor that the claim or invention is obvious. Here, it appears that Pat's invention solves a long-felt unsolved need. Because there was a similar invention soon after, this leads toward obviousness, but I would conclude that the invention is likely not obvious based on the prior art.

**QUESTION 2**

Big Stereo (BS) will be sued for literal infringement under § 271(a) of Claims 1 and 2 of the ‘123 patent. Literal infringement requires that all elements in the claims to be found in alleged infringer’s invention. First, each claim must be evaluated separately, and are construed as a matter of law. Markman. When claim language is ambiguous, we first look to intrinsic evidence (e.g. claims, specification, prosecution history), and then to extrinsic evidence (e.g., dictionaries, experts, inventor’s testimony). Phillips.

Before Claims 1 and 2 are construed, BS will argue that Pat’s patent is invalid on all of the grounds discussed in Question 1. If that fails, then BS then makes an argument for non-infringement.

Claim 1 of Pat’s patent includes the following elements: two electrical wires, a thermo-resistant material molded around the two wires, and zipper teeth molded to the thermo-resistant material that are releasably attached. BS will argue to construe Claim 1 as narrowly as possible, and that its invention does not meet the all elements rule. First, BS will argue that its invention does not infringe on Claim 1’s element for zipper teeth molded to the thermo-resistant material. Claim 1 does not define the term “molded to,” so BS will argue that its zipper teeth are not molded to the wires. Additionally, BS will argue that it uses metal zipper teeth, while Pat’s application is silent to the material of the zipper teeth used. In addition, the claim does not define “releasably attached” when describing the zipper teeth, and it is unclear whether the zipper teeth have a means of detachment.

In response, Pat will argue that these terms are not ambiguous. In addition, he will argue that this is a “pioneering invention,” and thus the claims should be construed

broadly. Pat will argue that Claim 1 does not specify material for the zipper teeth, and that this includes metal teeth. In addition, Pat will argue that “molded to” should be construed as both part of or adhered to the thermo-resistant material. Moreover, Pat will argue that the specification provides for *additional embodiments* that are not used with earphone wires, but can be used to prevent entanglement of additional types of cables. However, if the court fails to find literal infringement, Pat will argue that the doctrine of equivalents satisfies the third element in Claim 1 because BS’s element provides *substantially* the same *function, way, and result*. Wright. BS will have a very difficult defense to infringement of Claim 1, since the claim language is drafted broadly, and Pat did not amend the claims to narrow them at any point.

Claim 2 of Pat’s patent includes all of the elements from Claim 1 plus a headphone assembly and wires configured to transmit audio sound from a jack to headphones. BS will have an easier time arguing that its invention does not infringe Claim 2, which specifically applies to a headphone assembly. First, BS will argue that the wires for its invention do not transmit audio sound from a jack to headphones. BS will argue that its invention connects to full size speakers, rather than headphones, which are an element of Claim 2. Moreover, BS offers no options for headphone jacks with its invention, and the plugs they use are not the same as the jacks described in Claim 2. Pat will again argue DOE, stating that speakers are not different than headphones, and that the element *substantially embodies* the claimed mode of operation. Winans. This is a more difficult argument, and BS is more likely to be found non-infringing for Claim 2.

In addition, BS will argue that Pat disclaimed certain elements by including them in the specification but not in the claims. A patentee’s statements in the specification or

prosecution history may limit or disclaim otherwise broad claim language. Cultor Corp. If patentee describes something is in the specification, but does not claim it, the subject matter is donated to the public. Johnson & Johnson. For example, the requirement that only a majority of the length of the cables can include means for releasable attachment. Therefore, BS will argue that they can avoid infringement by including releasable attachment for the entirety of the cables. In response, Pat will argue that one cannot read limitations into the claims from the specification. Therefore, the limitation in the specifications were suggested embodiments, and did not affect the metes and bounds of the invention. BS has a better chance of not infringing Claim 2

Here, BS cannot rely on prosecution history estoppel because Pat did not narrow either of his claims during the prosecution process. If Pat had narrowed either Claim 1 or Claim 2, BS would have argued that unless the claimed equivalent was *unforeseeable*, DOE cannot be used for that element. Warner-Jenkinson. Festo. However, BS could try to argue for the reverse doctrine of equivalents (RDE). Under RDE, an accused invention may avoid infringement, even if within the literal words of the claim, if it is so far changed *in principle* from a patented invention that it performs the same or similar function in a *substantially different way*. Westinghouse. Here, BS will be hard pressed to demonstrate that its invention is substantially different from Pat's.

Finally, BS can make an argument for inequitable conduct in defense of infringement. In order to show inequitable conduct, the alleged infringer must show: (1) *specific intent*; and (2) *materiality*, and both elements must be *analyzed separately*. Therasense. To show intent, alleged infringer must demonstrate by *clear and convincing evidence*, that applicant *knew* of the reference, *knew* it was material, and made a

*deliberate decision* to withhold it. To show materiality, the alleged infringer must establish that the PTO would not have allowed the infringing claim if it had been aware (“*but for*”) the undisclosed prior art. It will be difficult to show that Pat acted with specific intent in failing to reveal such prior art, especially with clear and convincing evidence. Further, it is not clear that he made a deliberate decision not to disclose it. Finally, even if Pat did disclose this prior art, it is unlikely material. Even if Pat had disclosed the reference, Pat’s claim would have still been granted. Based on the facts, it appears that BS will have a difficult time overcoming an infringement suit Claim 1, and even on Claim 2.

**QUESTION 3**

Here, users of the zipper speaker with headphones would likely be infringing Claims 1 and 2 because now the cables are connected to headphones. In order to claim contributory infringement, there first must be literal infringement. Under § 271(c), to constitute contributory infringement: (1) the product must infringe a material part of the invention; (2) defendant must know that its product is used in an infringing manner; and (3) product must not be a staple article or suitable for substantial non-infringing use. Aro Mfg; C.R. Bard. Here, the zipper speaker has substantial non-infringing uses when used without headphones, so it likely does not constitute contributory infringement. Under § 271(b), in order to liable for active inducement defendant must have: (1) intent to infringe; and (2) provided assistance. GlobalTech. Here, it does not appear that BS would have *actively induced* infringement because they did not provide instruction to use headphones or any other affirmative act.

**QUESTION 4**

Under § 102 of the AIA, the first to file wins the patent, except where: (1) the second filer was first to publicly disclose the invention; (2) the first filer obtained the invention, directly or indirectly, from another person; (3) the first filer abandons the application prior to publication or issuance. For purposes of prior art, a reference constitutes prior art if it was created before the effective filing date, not the date of invention. Under § 103 of AIA, all § 102 prior art is prior art for obviousness, and obviousness is now measured at the *effective filing date*, not at the date of invention. Further, the AIA removed the geographic limitations for all disclosures prior to filing, including public use and on sale, so it no longer matters where the disclosure occurred. In addition, the legislative history of the AIA makes clear that Egbert and Beachcombers have been overruled, and no longer constitute prior art. The AIA eliminates interference proceedings, and thus there is no need to determine who conceived first because the only relevant date is who filed or publicly disclosed first. Here, AI would have priority over Pat because he filed his application first. This is quite distinct from the date of invention rule, which found Pat to have priority. However, the use of the prior art would not change because they still do not include all elements.