

**QUESTION 1—VALIDITY****1. Subject Matter § 101**

Under § 101, “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent[.]” subject to few exceptions. Although not categorical (Chakrabarty; Bilski), the Alice/Mayo framework requires that claims directed towards abstract ideas or natural phenomena must include a transformative step to be patent-eligible.

Here, a challenger may claim Pat’s invention is directed toward the natural phenomena of the chemical processes that allow for heat generation in a traditional hand warmer and administering such heat to the hand and fingers without an inventive concept like the process of administering a drug in Mayo. By doing so, challenger will claim, although the administering of the heat requires human interaction by placing the handwarmer in the glove, that relation of heat generation and administering to the hand exists in principle apart from any human interaction. Pat can distinguish Mayo by asserting his claim is to an article of manufacture as opposed to a method there, and he will succeed in countering that his concept is not directed toward the heating principles behind the handwarmer but the implementation of those concepts into a physical product for heating the hand. Even if found to be directed toward an ineligible concept, Pat can reference CellzDirect by analogizing his transformative application of the principles to heating the hand here like the improved preparation of multi-cryopreserved cells there.

**2. Utility § 101, 112**

Under §101 and 112, patentable inventions must have operable, beneficial, and practical utility. Operable utility requires that the invention must actually achieve some intended result that is not inherently unbelievable, viewed at the time of filing from a PHOSITA. Beneficial

utility requires that the invention cannot be frivolous or injurious to the well-being, good policy, or sound morals of society not based on degree. Lowell. Practical utility requires a specific and substantial immediate benefit to the public. Brana; Fisher; Nelson v. Bowler.

Here, Pat's claims likely meet the operable utility requirement. He claims an improved heated glove utilizing a chemical handwarmer, which is not inherently unbelievable in light of how conventional chemical handwarmers are in achieving (perhaps with lesser degree) the same intended result of heating the hand and fingers. Pat's claims likely meet the beneficial utility requirement. His claims to the improved heating glove do not need to be better than alternatives on the market, Lowell, nor does the degree of heating utility matter. Bedford. Even if a challenger asserts the invention is deceptive in its ability to heat fingertips, that is not by itself sufficient to render the invention unpatentable, Juicy Whip, and Pat will successfully counter his claimed invention does not offend statutory bars in this area. Pat's claims likely meet the practical utility requirement. Pat can likely demonstrate specific utility of the gloves in heating the hands and fingertips "in very cold weather" because that is a well-defined and particular benefit. Substantial utility is likely met because the benefit of the heated gloves is immediately available to the public. Fischer. It is irrelevant if Pat commercialized the product because a PHOSITA can use the claimed discovery to provide the disclosed benefit immediately to the public. Nelson v. Bowler.

### **3. Adequate Disclosure § 112**

Under § 112, a patent must have sufficient enablement, written description, and definiteness of the claimed invention.

#### **A. Enablement § 112(a)**

Enablement requires the inventor to describe their claimed invention clearly enough so that a person having ordinary skill in the arts (PHOSITA) can understand the scope well enough to make and use it without undue experimentation. Warner-Lambert. This objective inquiry requires the examiner to: (1) define the claim scope; (2) determine the scope of enablement; and (3) determine if the claim of that scope is enabled. Undue experimentation allows a PHOSITA to fill some gaps and is viewed under the illustrative 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; and breadth of the claims.

Here, the first step is to define the broadest scope of the claim. Here, the patent covers a heated glove utilizing a handwarmer with an inner layer, an outer layer, and a means for the heat from the hand warmer to travel to each fingertip. The second step is to determine the scope of enablement, meaning what is disclosed in the specification plus the scope of what would be known to a PHOSITA. Invitrogen Corp. Here, the specification does not explicitly teach of how to implement the stiff support member to keep the ducts open for heat to travel. Thus, for claim 2 to be enabled, a PHOSITA must be able to fill those gaps. The third step is to determine if the claim of that scope is enabled.

For Claim 1, a challenger may argue that, under the Wands factors, undue experimentation is required to make and use (c) because although the specification provides some direction, such a broad claim does not limit itself to the stiff support members in claim 2 and the specification, so a PHOSITA would have to undergo experimentation necessary for other implementations of (c). A challenger will argue that the claims are like those in Incandescent Lamp where the claimants only enabled one material but claimed a genus of material. Specifically, a challenger will assert that (c) attempts to claim a genus of implementations for the means of heat traveling to the

fingertips, while only enabling the stiff support members implementation in Claim 2. Pat will counter that a PHOSITA, considering glove technology available, would have to undergo very little experimentation to achieve the means described in (c). Pat can distinguish Incandescent Lamp by asserting that the few number of implementations for (c) available for allowing the heat to travel to the fingertips is much less than the genus of potential materials suitable for the claimed invention there.

For Claim 2, a challenger may argue that, even under this narrower claim, undue experimentation is required to make and use the stiff support members because although the specification and figures provide direction as to how to implement such members in the glove, the patent does not describe how exactly the support members actually keep the ducts open. Pat will counter that a PHOSITA in this area of technology will be able to fill in these gaps because this claim limits its means to the embodiment of stiff support members present in the specification and prototype.

**B. Written Description § 112(a)**

Written description requires the inventor to describe the invention to demonstrate to the examiner that they are subjectively in possession of the invention at the time of filing. Ariad. This also requires that the scope of the claims be no broader than the supporting disclosure, Gentry Gallery.

Here, a challenger may argue that Pat did not possess the invention described in Claim 1 because he attempts to claim broader than the supporting disclosure of the stiff support member implementation in Claim 2, the specification, and his prototype. Gentry Gallery. A challenger will analogize Pat's claims to Eli Lilly, where the lack of a precise definition of cDNA claimed and mere wish or plan for obtaining such claimed invention was insufficient similar to Claim 1,

which merely describes an intended goal of allowing heat to travel to the fingertips from the handwarmer. Pat will counter by asserting that his broader claim, when the art permits, are allowed to cover more than the specific embodiment shown. Ethicon. Pat will also be able to distinguish Eli Lilly by asserting that Claim 1 does more than describe the intended goal because the specification provides a specific embodiment of such means, regardless of Claim 2, in addition to his prototype that may have another implementation (not specified).

### C. Definiteness § 112(b)

Indefiniteness occurs when the claims, in light of the specification and prosecution history, fail to inform, with reasonable certainty, a PHOSITA about the scope of the invention at the time of filing. Nautilus. A claim may be drafted in functional terms under § 112(f) and fail for definiteness if adequate structure is not disclosed, either in the claim itself (not implicating § 112(f)) or in the specification. Amtel Corp.

Here, a challenger will argue that Claim 1(c) and Claim 2 specifically implicate § 112(f) by describing the elements as a “means,” creating this presumption. Williamson. For Claim 1(c), a challenger will argue that this element lacks sufficient structure because it does not reference the stiff support members implementation described in the specification. Pat will argue the exact opposite that, despite not directly referencing the stiff support members and ducts in the specification, this structure in the specification reasonably informs a PHOSITA with reasonable certainty of the scope of the claim. Claim 2 likely has sufficient correspondence to the ducts 22 for sufficient structure in the specification, but the stiff support members are not referenced to the figures, potentially insufficient for definiteness.

## 4. Novelty

Under the AIA, novelty is assessed by the filing date and follows these steps to determine:

- (1) what qualifies as prior art under § 102(a); (2) what prior art is excluded under § 102(b); and
- (3) what remaining prior art anticipates the claimed invention.

**A. Qualified § 102(a)**

Under § 102(a)(1), prior art includes references described in a printed publication, patented, in public use, on sale, or otherwise available to the public before the effective filing date. § 102(a)(2) also qualifies references described in a U.S. patent application as prior art. Here, Pat filed his application on 1/1/21 and the following are potentially prior art: (1) chemical handwarmers; (2) gloves, batting gloves generally; (3) the Amazon advertisement; (4) attempted Chinese patent; (5) Electric gloves; (6) Pat himself; (7) Mitten World's and Metsy's mittens.

- (1) The chemical handwarmers are potentially prior art under 102(a)(iii) as public use or 102(a)(1)(iv) as on sale based on their widespread adoption and use.
- (2) Gloves and batting gloves generally are potentially prior art under 102(a)(iii) as public use or 102(a)(1)(iv) as on sale for the same reasons as the handwarmers.
- (3) The Amazon advertisement is potentially prior art under 102(a)(1)(iii) as described in a printed publication. Under Klopfenstein, the advertisement would qualify as publicly accessible because (1) the advertisement was likely displayed for more than a mere transient period of time to garner sales; (2) the expertise of the target audience was relatively low due to most everyone needing gloves at some point; (3) there was no reasonable expectation that the material would not be copied since the goal of an ad is entice buyers to buy the product; and (4) it is easy to copy an Internet ad based on easily accessible software to do so (such as screenshotting). The ad may also be prior art under 102(A)(1)(iv) as on sale, if the ads lead to a viewer being able to buy the product from a

commercial offer, however, the mere circulation of ads for an invention do not trigger this bar. Linear Tech. Corp. Also, the “invention” of placing the handwarmer inside a glove is not “ready for patenting” because there seems to be no proof of reduction to practice since the ad for was handwarmers themselves, but the picture may enable a PHOSITA of the combination sufficient for this requirement under Pfaff.

- (4) The attempted Chinese patent is potentially prior art under 102(a)(1)(ii) as patented, despite not being issued. It could also qualify as 102(a)(1)(i) printed publication if sufficiently publicly accessible under Klopfenstein discussed above and is indexed properly under Hall and not according to the inventor’s name under Lister. If a printed publication, then the entire application will qualify as prior art. If not, only the claims (and not specification) will qualify as prior art. Reeves Bros.
- (5) The Electric gloves are potentially prior art under 102(a)(1)(iii) and 102(A)(1)(iv) for the same reasoning as the Amazon ad.
- (6) Pat himself may have produced prior art through his prototyping before filing his application. Specifically, using his prototype during team practices may qualify as public use under 102(a)(1)(iii). A challenger will assert that even if Pat only used the glove in practice once, if the use was non-confidential, this will qualify since Pat’s ordinary course of business is playing baseball, which involves routine practices. Shimadzu. Pat may counter by asserting that he had a reasonable expectation of confidentiality since he wore the gloves in practice and not in a game open to the public. Egbert. Pat will also be able to assert that his use in practice qualifies under the experimental use exception since he maintained complete control over the gloves, however, if he did not solicit feedback from his teammates, this argument will likely fail. City of Elizabeth.

(7) Mitten World and Metsy’s mittens may qualify as prior art under 102(a)(1)(iv) as on sale if sold before Pat’s filing date. They both likely qualify as subject to commercial offers for sale and are reduced to practice sufficient for “ready for patenting” if sold to consumers (the pictures alone may also be sufficient to enable a PHOSITA to produce the device under Pfaff).

**B. Excluded § 102(b)**

Under § 102(b), inventors have a one-year grace period before their filing date that excludes prior art within this time period. Pat’s public use in during team practice after 10/1/20 will be exempted under 102(b)(1)(A) because they were disclosures directly attributable to himself and occurred less than one years from his filing date of 1/1/21.

**C. Anticipated**

Finally, the remaining prior art invalidates a claimed invention by anticipation if a single reference contains all elements in the proposed claims. In re Robinson. Generally, the ‘123 patent claims the elements of (1) an inner layer with a pocket to hold the handwarmer, (2) an outer layer around the inner layer, and (3) a means to allow the heat from the handwarmer to travel to the fingertips.

- (1) Chemical handwarmers do not anticipate because they lack the implementation into gloves.
- (2) Gloves and batting gloves generally do not anticipate because they lack the implementation of a handwarmer.
- (3) The Amazon ad does not anticipate because although it may enable the handwarmer placed inside of a glove but does not enable an inner layer and pocket to hold such warmer or a means for the heat to reach the fingertips.



- (4) The attempted Chinese patent does not anticipate. This is because the Chinese patent describes a hand covering “with a pouch in the palm that opens to hold a ‘warming device.’” This may cover the “sealable top pocket to hold the hand warmer” but does not cover the ducts disclosed in Claim 1(a), since the product is fingerless. This fact also supports the lack of means element in the Chinese application to allow the heat from the handwarmer to travel to the fingertips.
- (5) The electric gloves may anticipate. This is because Claims 1 and 2 reference a handwarmer without specifying a chemical handwarmer. A challenger would argue that the specification does not limit the claims such that an electric warmer can also be defined as a handwarmer in the claims. The electric gloves include all other elements (an inner and outer layer with a means of delivering the heat from the electric coil to the fingertip via a wire in a space (“duct”) between the inner and outer layer), so Claim 1 is likely anticipated. Pat can counter by asserting that the electric gloves lack a “sealable top pocket to hold the hand warmer and ducts” because electric coil may not be embedded into a sealable pocket.
- (6) Because anticipation and infringement analyses are largely the same due to the all elements standard under each inquiry, “that which would literally infringe if later in time anticipates if earlier.” Lewmar Marine, Inc. v. Barient. Therefore, see “Direct Infringement” analysis below for MW and Metsy’s products to determine anticipation.

### 5. **Obviousness § 103**

Under § 103, obvious inventions are not patentable. This factual inquiry is assessed under Graham into: (1) the scope and content of the prior art; (2) the differences between the claimed

invention and prior art; (3) the level of ordinary skill in the pertinent art; and (4) determine the obviousness of the subject matter.

First, the prior art must be analogous art to the claimed invention, assessed by if: (1) the art is from the same field of endeavor, regardless of the problem addressed; and (2) the reference is reasonable pertinent to the particular problem with which the inventor is involved. Clay. Here, the field of endeavor is likely to be found as “heating gloves.” As such, all of the viable prior art listed above is available. Pat may try to limit the field to chemical heating gloves to exclude the electric heating gloves as not analogous, however, these gloves are still pertinent to the problem addressed by Pat’s invention, namely the heating of hands and fingertips.

Second, the differences between the claim invention and prior art are described in the “Anticipated” section.

Third, the level of ordinary skill in the pertinent art is likely an engineer with a bachelor’s degree in science familiar with gloves and handwarmer technology.

Fourth, obviousness is judged in terms of the objective reach of the claims. KSR. For Claim 1, a challenger will argue that a PHOSITA would be able to “connect the dots” by combining the failed Chinese patent with the electric gloves to include a “means for allowing heat to travel from the hand warmer to the top of each fingertip” from the pocketed handwarmer in the Chinese patent and adapting the structure of space between and inner and outer later in electric gloves as ducts. Pat can counter by asserting that this combination was not done according to known methods (the ducts are arguably new when not filled by wires) to yield an unpredictable result of carrying heat from a chemical handwarmer to the fingertips as opposed the guarantee of heat transfer produced by wires in the electric glove. For Claim 2, a challenger will argue that simply substituting the wires in the electric glove with ducts containing stiff support members was a

predictable variation. Pat can counter by asserting that the need for stiff support members, as opposed to malleable wires, was not a known technique to achieve the same result of delivering heat to the fingertips, given the lack of such an element in the prior art.

Finally, secondary considerations such as commercial success, long felt but unsolved needs, and the failure of others, may be used indicia of obviousness. Although not dispositive, Pat will argue the communities long felt but unsolved need of sufficiently warming fingertips weighs in his favor based on drawbacks of simply putting handwarmer in an un-adapted glove.

### **QUESTION 2—DIRECT INFRINGEMENT**

Under § 271(a), literal infringement requires an infringing product to have all of the elements, or their equivalents, of the claimed invention. The analysis starts with claim construction to determine the scope of the claimed invention, wherein the claims must be interpreted: first, in terms of their ordinary meaning to a PHOSITA; second, in terms of the specification for context; third, in terms of other intrinsic evidence, such as prosecution history; and fourth, in terms of extrinsic evidence, if still ambiguous. Phillips; Markman. Under the doctrine of equivalents (DOE), an element is still infringed if the infringer performs substantially the same function in substantially the same way to obtain the same result.

#### **2(A) Mitten World**

Pat will argue that, despite being fingerless, MW's mitten infringes Claim 1. In terms of 1(a), Pat will argue that his claimed "inner layer of material placed around a hand and fingers" is achieved when MW's mitten is pulled over the fingers such that gloves and mitten cover the hand and fingers. Despite lacking a "sealable top pocket to hold the hand warmer and ducts," Pat will argue that under DOE, when a user places the hand warmer in the glove portion with the mitten portion covering the fingers, the product achieves the same function (sealing in the

warmth) the same way (fabric stretched over the hand and fingers) to achieve the same result (allowing heat to travel to the fingertips inside the product). In terms of 1(b), Pat will argue that the “outer layer” is the portion of the mitten cover that overlaps the glove cloth that partially extends up the fingers, which then “form[s] the heated glove” when a handwarmer is placed inside. In terms of 1(c), Pat will argue again under DOE, that the asserted means function is achieved the way to achieve the same result under 1(a) analysis.

MW has convincing defenses and responses to each element. In terms of 1(a), MW can counter that their “inner layer” does not form “ducts, each duct extending from the top pocket over each finger” because the glove portion does not seal in the fingers, and even when the mitten is pulled over the finger portion, no ducts are formed, especially in light of the specification that discloses the ducts having a “top layer and bottom layer” that “extends from the top pocket 20 over each finger.” This is because the alleged “ducts” formed by Pat do not contain an inner layer since the fingers are only covered by the outer mitten cover. Even under DOE, MW has an argument that these ducts are a sufficiently different way in which the function (allowing heat to travel from the hand warmer to the fingertips) achieves the same result (heating the hand and fingers). In terms of 1(b), MW can counter that even if the overlapping portion of the mitten over the glove portion qualifies as an “outer layer,” doing so does not “form the heated glove” because MW merely sells the glove with no handwarmers, so the glove is not “heated” as it is sold. In terms of 1(c), MW can counter under a similar line of reasoning to 1(a), that, even under DOE, MW’s mittens lack a “means for allowing heat to travel from the hand warmer to top of each fingertip” because the glove portion seals the palm portion away from the fingertips, inhibiting heat to travel to the fingertips from this section where a handwarmer can be placed.

**(2)(B) Metsy**

Pat will have similar claims over Metsy's product under Claim 1. In terms of 1(a), Pat will have an even stronger argument that Metsy's product comprises an "inner" layer as Metsy's product has material that covers the fingers, even when the mitten pouch is not used. Pat will also argue the same reasoning above re: the "sealable top pocket to hold the hand warmer and ducts." In terms of 1(b), Pat will have an even stronger argument for Metsy's product containing an "outer layer" because the mitten pouch completely covers the inner layer over the fingers. In terms of 1(c), Pat will argue under DOE that placing a handwarmer over the finger portion of the hand between the layers achieves the same function (heating fingers) the same way (allowing for heat to travel through the inner layer directly to the fingers is the same as allowing for the heat to travel through ducts to the fingertips) to achieve same result.

Metsy has similar defenses to MW. In terms of 1(a), Metsy can counter by asserting that the inner layer itself does not form "a sealable top pocket to hold the hand warmer" because the handwarmer is placed between the inner layer and outer layer in its products. Even under DOE, Metsy can argue this is a sufficiently different way. Metsy can assert the same defenses re: the ducts as MW. In terms of 1(b), Metsy, unlike MW, does sell the handwarmers with its product. In terms of 1(c), Metsy can again counter under the same reasoning of 1(a) that its means of allowing for the heat to travel to the fingertips is sufficiently different.

**QUESTION 3—INDIRECT INFRINGEMENT**

Under § 271(b), inducement requires knowledge of the patent's existence and that it is being infringed by their own actions. Under § 271(c), contributory infringement requires the (1) same knowledge as (b), and (2) the infringer must "sell, offer to sell, or import" (3) a

“component,” “material” or “apparatus” that is (4) a “material part” of the invention (5) with no substantial non-infringing use.

Here, assuming MW’s buyers directly infringe by placing a chemical handwarmer in the product under Q2 analysis, Pat will argue MW induced buyers to do so by suggesting on their website to directly infringe. MW can counter by asserting that although it knew of the patent, it did not know that such acts by its buyers constituted infringement as a valid defense. Pat will also argue that MW committed contributory infringement because it sold the products that are a material part of the invention. MW can counter by asserting the same defense to knowledge under inducement and that the product has substantial non-infringing uses as used without the handwarmer, which is likely most of the time.

#### **QUESTION 4—1952 ACT**

Under the 1952 Act, the critical date is the date of invention instead of the date of filing. This would change Pat’s critical date to 11/1/20 when he completely his first prototype as reduction to practice, however, this would create a priority fight with any challenger that could prove conception before Pat, namely the inventor of the failed Chinese patent, the electrical gloves, MW, Metsy, and even potentially the person who enabled the use of handwarmers in gloves in the Amazon ad. Additionally, a challenger may have a claim under § 102(c) for abandonment if they could prove Pat took steps inconsistent with patenting or dedicating the invention to the public through his potential public use during team practices. Pat can counter by asserting that under Ex parte Dunne he had not intent to abandon (no dedication to public) and did not commercially exploit his product (no actions inconsistent with patenting) under the same reasoning for his non-public use under “Novelty” (Q1(4)(A) (6)).