IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF PENNSYLVANIA

DELTA FRANGIBLE AMMUNITION, LLC,	)	
	)	Civil Action No. 06-1477
Plaintiff,	)	
	)	Judge McVerry
v.	)	Magistrate Judge Bissoon
SINTERFIRE, INC.,	)	
Defendant.	)	

MAGISTRATE JUDGE'S REPORT AND RECOMMENDATION

I. RECOMMENDATION

In this patent infringement lawsuit, it is respectfully recommended that: Defendant's Motions for Summary Judgment based on anticipation, obviousness (*see* Doc. 114) and derivation (Doc. 110) be granted; Plaintiff's Motion for Summary Judgment on validity (Doc. 104) be denied; and Plaintiff's Motions for Summary Judgment on infringement (Doc. 107) and lack of inequitable conduct (Doc. 101) be denied as moot.

II. REPORT

BACKGROUND

Plaintiff Delta Frangible Ammunition, LLC, is the owner by assignment of U.S. Patent Number 6,074,454, entitled "Lead-Free Frangible Bullets and Process for Making Same." *See generally* Compl. (Doc. 1) at ¶¶ 1, 4. The patent-in-suit will be referred to as "the PIS."

The PIS addresses bullets made of at least 60% copper that have "increased frangibility[, *i.e.*,] which can be easily fragmented[.]" *See generally* '454 Patent (filed as Ex. 2 to Doc. 118) at "Abstract" & Claim 1. The invention contemplates the provision of lead-free bullets

that "minimiz[e] the risk of both ricochet and back-splatter." *See id.* at "Background" section, col. 1, lns. 14-26; 27-50. Essentially, the bullets are intended to fracture into small pieces upon hitting a sufficiently hard surface, thereby preventing fragments from striking unintended targets. *See generally id.*

For the purposes of summary judgment, the parties came to agreement that the only PIS claims at issue were 1, 2, 5, 6, 7, 13, 15, 39, 40, 41, 42, 49 and 50. *See* Ex. 18 to Doc. 118 (email communication between counsel confirming same). In responding to Defendant's Motions for Summary Judgment, however, Plaintiff has limited its discussions to claims 1, 2, 5, 7, 13, 15, 39 and 40. *See* Pl.'s Opp'n Br. (Doc. 133) at 1, 2, 9 (Plaintiff counsel's section headers, addressing only these claims). Thus, the Court will restrict its analyses to the aforementioned claims.[1]

The PIS contains two asserted independent claims, Claims 1 and 39. Claim 1 recites a product, "[a] frangible bullet," and Claim 39 recites a "method" of making the bullet. Claim 1, and the dependent claims flowing therefrom, read as follows:

> 1. A frangible bullet comprising at least 60 percent by weight copper and manufactured by pressing a copper-containing powder in a die to form a pressed powder compact and subsequently sintering said pressed powder compact, wherein said sintering is partially impeded either[:]
>
> (i) by the addition of a frangibility effecting additive to said powder, or
>
> (ii) through control of density of said pressed powder compact, or

[1] To the extent that the undersigned's analyses do not address, explicitly or by implication, the claims omitted from Plaintiff's summary judgment papers (*i.e.*, Claims 6, 41, 42, 49 and 50), the District Court should deem those claims abandoned. *See* Eady v. Veolia Transp. Servs., Inc., 609 F. Supp.2d 540, 560-61 (D. S.C. 2009) ("[t]he failure of a party to address an issue raised in summary judgment may be considered a waiver or abandonment of the relevant [claim]") (citations omitted).

> (iii) through control of sintering temperature, or sintering time, or
>
> any combination of the above; so as to produce a bullet capable of fragmenting upon impact with a target.
>
> 2. The bullet of [C]laim 1 wherein the bullet is lead-free.
>
> 5. Ammunition comprising the bullet of [C]laim 1.
>
> 7. The bullet of [C]laim 1 wherein the sintering is partially impeded either[:]
>
> (ii) through control of density of said pressed powder compact, or
>
> (iii) through control of sintering temperature, or sintering time, or any combination thereof.
>
> 13. The bullet of [C]laim 7 wherein the powder is a mixture of copper powder and from 2 to 20 percent by weight of tin powder.
>
> 15. The bullet of [C]laim 7, wherein the powder is a mixture of about 90 percent by weight copper and about 10 percent by weight tin.

Claims 39 and 40 are identical to Claims 1 and 7, respectively, except that they recite "[a] method of making a frangible bullet" rather than the bullet itself.

In large part, Defendant's arguments regarding patent invalidity flow from a single piece of prior art, reflected in British Patent Application GB 2 278 423, dated November 30, 1994 ("*Slater*") (filed as Ex. 1 to Doc. 118). *See* Def.'s Facts (Doc. 117) at ¶¶ 9, 11; Pl.'s Response to Def.'s Facts (Doc. 135) at ¶¶ 9, 11 (admitting that *Slater* constitutes "prior art"). The disclosures in *Slater*, made more than one and a half years before the filing of Plaintiff's patent application, are remarkably similar to those in the PIS. As described in its "Abstract" section, *Slater* revealed a "bullet," comprised of "a metal core . . . formed from a sintered metal powder and an adherent coating . . . of plastics material." "The metal powder may be steel, tungsten, copper, bronze, or

especially iron," and "[t]he projectile may be rendered frangible by selection of appropriate particle size and sintering parameters."

The metal powders identified in *Slater* were deemed "advantageous[]" because they "avoid[ed] the use of lead," and the "environmental pollution" associated therewith. *Id.* at 2. *Slater* also revealed the "pressing" of metal powder preform, and it stated that "[t]he frangibility of the finished projectile can be controlled by control of the pressure used for producing the green preform, and the temperature and duration of the sintering process, as well as the particle size of the . . . powder." *Id.* at 4.

On these and other teachings, *Slater* claimed, among other things:

> 1. A projectile comprising a metal core which is formed from a sintered metal powder, and an adherent coating.
>
> 5. A projectile . . . wherein the metal powder is selected from the group comprising iron, steel, tungsten, copper and bronze powders.
>
> 15. A projectile in accordance with any preceding claim which is a small arms projectile.
>
> 19. A round of ammunition incorporating a projectile in accordance with any preceding claim.

Id.

The similarities between *Slater* and the PIS have not gone unnoticed by the governmental agencies responsible for reviewing patents. As Defendant highlights, Plaintiff's attempts to secure a European patent on its invention were rejected, in part, on *Slater*. *See* Ex. 5 to Doc. 118 at ¶ 2.1 ("[*Slater*] describes a frangible bullet . . . which is made by pressing and sintering . . . . The bullet [in *Slater*] can be made from copper or its alloy . . . . Thus, the bullet [in Plaintiff's European] claim 1 . . . lacks novelty with respect to [*Slater*]."). And, while *Slater* was given

consideration during the initial prosecution of the PIS, the United States Patent and Trademark Office ("USPTO") recently granted *ex parte* reexamination, finding a substantial new question of patentability "based solely on *Slater*." *See* Ex. 6 to Doc. 118 at 4.[2]

The similarities between *Slater* and the PIS are unsurprising, given the testimony of one of the PIS's inventors, Roy Kelly. From 1986 until 1989, Kelly worked in the U.K. for the company Royal Ordinance. *See* Def.'s Facts (Doc. 113) at ¶ 2 (citing record evidence).[3] Royal Ordinance is the owner of the *Slater* publication. *See generally id.* at ¶ 30.

While at Royal Ordinance, Kelly was a technical manager and the Assistant Director for Research and Development. *See id.* at ¶ 3. Kelly's responsibilities at Royal Ordinance included knowing "about all the different ordnance that was being made." *Id.* at ¶ 4. This led to his having "a fairly good grip of the ammunition across the company." *Id.* at ¶ 6.

Although Kelly was not directly responsible for frangible ammunition, he attended meetings with co-workers where "everybody would report on the developments that were going on" in the ammunition division. *Id.* at ¶ 7. It was within this context that he learned of Royal Ordinance's development of "a sintered projectile . . . that was frangible." *See* Dep. Tr. of R. Kelly (filed as Ex. 4 to Doc. 118) at 297. Mr. Kelly has testified that such frangibility was achieved by Royal Ordinance through "partial sintering." *See* Dep. Tr. of R. Kelly (filed as Ex. 34 to Doc. 111) at 67. Indeed, it was "only [through]" Kelly's employment at Royal

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[2] Plaintiff objects, on numerous grounds, to the Court's consideration of the European prosecution and the USPTO's grant of reexamination. *See, e.g.*, Pl.'s Opp'n Br. (Doc. 133) at 13; Pl.'s Doc. 150 at 1-2. The undersigned notes the aforementioned findings largely by way of background, and they do not modify Defendant's burdens regarding validity. *Compare* Pl.'s Doc. 150 at 2 (highlighting "strong statutory presumption of validity" regarding PIS) (citations and internal quotations omitted) *with* discussion *infra* (confirming Plaintiff's entitlement to such presumption, but nevertheless recommending that summary judgment be granted in favor of Defendant).

[3] Unless otherwise noted, the Court will rely on Defendant's statements of fact only to the extent they are not meaningfully disputed.

Ordinance that he learned of the company's efforts to "control[] the ductility of iron projectiles by less than fully sintering them and . . . by adding additives, which encouraged [a] lack of full sintering." *Id.* at 59-60.

After leaving Royal Ordinance in 1989, Kelly was hired by Plaintiff. *See generally* Def.'s Facts (Doc. 113) at ¶ 2. While in Plaintiff's employ, Kelly began considering ways to partially sinter copper powder for use in frangible bullets. *See id.* at ¶ 18. Kelly has testified that, given his knowledge regarding the partial sintering of iron, "it seemed fairly logical that [copper] would" work, although he did not have "a hundred percent assurance . . . until we actually did it and tried." Dep. Tr. of R. Kelly (filed as Ex. 34 to Doc. 111) at 72.

In furtherance of his objectives, Kelly contacted a copper powder supplier, "SCM." *See* Def.'s Facts (Doc. 113) at ¶ 20. Kelly explained his idea to SCM, and, despite its apparent lack of experience in making bullets (or any other products), SCM agreed to manufacture samples. *See id.* at ¶¶ 20-21; *see also* Dep. Tr. of R. Kelly (filed as Ex. 34 to Doc. 111) at 72 (in response to question of whether SCM had previously made bullets, Kelly testified: "I don't know, but I don't think so. In general, they're not in the business of selling product," "[t]hey're in the business of selling powder for other people to make products").

As to his and SCM's efforts to manufacture a frangible copper bullet, Kelly testified:

> Q. [H]ow long did it take to make a [copper] bullet that would leave the barrel of a gun without breaking up but would break up when it hit the target?
>
> . . . .
>
> A. Oh, from the outset. . . . Right at the beginning, . . . we knew based the very earliest trials . . . that we were on to something . . . . I recall very well the first trial, . . . we had no problem . . . with . . . [the] partially sintered [copper] bullets, we had absolutely no problem in getting them to leave the barrel. And then we had to increase . . . their ability to break up, and we went through the

> whole gamut. We found it not too difficult to go through the whole range from a bullet that . . . didn't break up at all on the target, to one in which . . . the bullets were breaking up in the barrel, and in between[. W]e had no problem determining that there were bullets that would . . . satisfy the requirement, namely, survive gun launch, leave the barrel intact, . . . and break up on the target. . . .
>
> Q. . . . [T]he invention itself you said had been proven from the outset.
>
> A. More or less. Almost . . . the very first bullets we had were -- . . . we were confident that we were there. Sometimes it wasn't always reproduce[i]ble. I mean, sometimes 12 out of 13 might . . . be okay and then the 13th wouldn't. So it was often the questions of your sample size, variability within the process. There are all sorts of things, but establishing the principles that are enunciated here in the [PIS], that was very early on.
>
> . . . .
>
> Q. So how long did it take SCM after you disclosed to them the concept of having a copper sintered bullet that would be partially sintered so that it would be frangible, how long did it take them from that point to actually giving you a sample that would leave the gun barrel intact and fragment upon hitting the target?
>
> A. . . . . I don't recall the actual time, but it was not long. . . .

Dep. Tr. of R. Kelly (filed as Ex. 34 to Doc. 111) at 161-63, 165-66.

ANALYSIS

In moving for summary judgment, Defendant asserts three theories regarding invalidity: anticipation, obviousness, and derivation. Summary judgment is appropriate under each, so the Court need not address Plaintiff's arguments regarding Defendant's alleged infringement and Plaintiff's lack of inequitable conduct before the USPTO in procuring the PIS.

A. Anticipation and Obviousness

1. Anticipation

A patent's subject matter is "anticipated" when it is not new; that is, when it was previously known. Sanofi-Synthelabo v. Apotex, Inc., 550 F.3d 1075, 1082 (Fed. Cir. 2008). Anticipation requires "every element and limitation of the [PIS] claim [to be] previously described in a single prior art reference, either expressly or inherently, so as to place a person of ordinary skill in possession of the invention." *Id.* (citations omitted). Anticipation also requires that the prior art be "enabling; that is, the description must be such that a person of ordinary skill in the field of the invention can practice the subject matter based on the reference, without undue experimentation." *Id.*[4] While anticipation is a question of fact, "it may be decided on summary judgment if the record reveals no genuine dispute of material fact." Leggett & Platt, Inc. v. VUTEk, Inc., 537 F.3d 1349, 1352 (Fed. Cir. 2008) (citation to quoted source omitted).

2. Obviousness

An invention cannot be patented if "the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." Proctor & Gamble Co. v. Teva Pharm. USA, Inc., 566 F.3d 989, 994 (Fed. Cir. 2009) (quoting 35 U.S.C. § 103(a)). Obviousness turns on underlying factual inquiries involving: (1) the scope and content of prior art, (2) differences between the PIS claims

[4] In some cases, "undue experimentation" has been broken down into component inquiries regarding: "(1) the quantity of experimentation; (2) the amount of direction or guidance present; (3) the presence or absence of working examples; (4) the nature of the invention; (5) the state of the prior art; (6) the relative skill of those in the art; (7) the predictability or unpredictability of the art; and (8) the breadth of the claims." *See* Impax Labs., Inc. v. Aventis Pharm., Inc., 545 F.3d 1312, 1314-15 (Fed. Cir. 2008) (citation omitted). Here, the parties have presented their evidence and arguments far more generally, and the District Court owes no obligation to marshal its analyses, in a vacuum, through the eight-factor test.

and the prior art, (3) the level of ordinary skill in the relevant art, and (4) secondary considerations such as commercial success and satisfaction of a long-felt need. *Id.* (citation omitted).[5]

In this case, the parties' arguments relate almost exclusively to the first two obviousness inquiries, namely the scope and content of *Slater*, and differences between *Slater* and the PIS. *See* discussions *infra*. As for the fourth prong, *i.e.*, "secondary considerations," the parties present no evidence or argument regarding the same.

Last, the parties fail to meaningfully address, or dispute, the level of ordinary skill in relevant art. Rather, counsel appear to presume that the witness testimony presented by the parties on summary judgment reflects, or is consistent with, the ordinary skill level in the relevant art. The District Court should take the same approach.

3. Defendant's Burdens on Summary Judgment

For the purposes of obviousness, courts have emphasized that patents are presumed valid, and a party seeking invalidation must demonstrate "that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so." *See* Proctor & Gamble, 566 F.3d at 994 (citation to quoted source omitted). Obviousness requires "[c]lear and convincing evidence," such that a reasonable factfinder would have

[5] If a patent challenger makes a *prima facie* showing of obviousness, the owner may rebut it based on "unexpected results," by demonstrating "that the claimed invention exhibits some superior property or advantage that a person of ordinary skill in the relevant art would have found surprising or unexpected." *Id.* (citation to quoted source omitted). Here, Plaintiff challenges Defendant's claims at the initial stage, and Plaintiff makes no effort to rebut obviousness based on "unexpected results." The Court will, therefore, similarly limit its analyses.

"an abiding conviction that the truth of [the patent challenger's] factual contentions are highly probable." *Id.* (citation to quoted source omitted).[6]

Although Defendant's burdens regarding obviousness (and anticipation) are heavy, they certainly are not insurmountable. *See generally* Def.'s Br. (Doc. 122) at 10-11 (citing cases where Federal Circuit Court affirmed district courts' grant of summary judgment based on anticipation and obviousness). As the United States Supreme Court recently affirmed, summary judgment is appropriate where "the content of the prior art, the scope of the patent claim, and the level of ordinary skill in the art are not in material dispute." *See* KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 427 (2007). Thus, where there is no basis for a reasonable factfinder to conclude that a defendant's evidence of anticipation and/or obviousness can be overcome, summary judgment is appropriate. Zenith Elec. Corp. v. PDI Commc'n Sys., Inc., 522 F.3d 1348, 1357 (Fed. Cir. 2008) (citation omitted); SRAM Corp. v. AD-II Eng'g, Inc., 465 F.3d 1351, 1357 (Fed. Cir. 2006) (citation omitted).

4. Plaintiff's Positions Regarding Anticipation and Obviousness, and the Supreme Court's Decision in KSR

In this case, Plaintiff resists Defendant's claims of anticipation and obviousness on parallel grounds. For the purposes of anticipation, Plaintiff asserts that "undue experimentation" would be required "to take the teachings of *Slater* and adapt them to a predominantly copper bullet." *See, e.g.*, Pl.'s Opp'n Br. (Doc. 133) at 3. As to obviousness, Plaintiff invokes the

[6] Plaintiff correctly observes that where, as here, the PTO considered the prior art reference (*Slater*) during initial prosecution, Defendant "bears an even heavier burden" to demonstrate invalidity. *See* Metabolite Labs., Inc. v. Laboratory Corp. of America Holdings, 370 F.3d 1354, 1368 (Fed. Cir. 2004) (citation omitted). The USPTO's recent grant of reexamination, however, based solely on *Slater*, undermines Plaintiff's position in this regard. In any event, summary judgment in favor of Defendant is appropriate even under the "heavier burden" annunciated in Metabolite.

somewhat analogous "obvious to try" standard, which dictates that obviousness is lacking where one skilled in the art would be left to "vary all parameters or try each of numerous possible choices until [she] possibly arrived at a successful result," because "the prior art gave . . . no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful." *See, e.g.*, Pl.'s Opp'n Br. at 6 (quoted source omitted).

Plaintiff's reliance on the "obvious to try" doctrine implicates the United States Supreme Court's recent decision in KSR. There, the Supreme Court undermined the oft-cited proposition that "a patent claim cannot be proved obvious merely by showing that the combination of elements was 'obvious to try'":

> When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under § 103.

Id., 550 U.S. at 421.

In this case, Plaintiff argues that Defendant cannot establish obviousness merely by showing that *Slater* made the partial sintering of predominantly copper powder "obvious to try." *See* Pl.'s Opp'n Br. (Doc. 133) at 6 (emphasizing KSR's language that "obvious to try" only "might" show obviousness under § 103). Plaintiff, however, downplays the significance of the Supreme Court's decision in KSR.

In interpreting KSR, the Court of Appeals for the Federal Circuit recently stated:

> Insofar as [prior decisions have] implie[d] the obviousness inquiry cannot consider that the combination of the claim's constituent elements was 'obvious to try,' the Supreme Court in KSR unambiguously discredited that holding. . . .

The Supreme Court's admonition against a formalistic approach to obviousness in this context actually resurrects this court's own wisdom in In re O'Farrell,[853 F.2d 894, 903 (Fed. Cir. 1988)] . . . . O'Farrell cautioned that 'obvious to try' is an incantation whose meaning is often misunderstood . . . .

It is true that this court and its predecessors have repeatedly emphasized that 'obvious to try' is not the standard under § 103. However, the meaning of this maxim is sometimes lost. Any invention that would in fact have been obvious under § 103 would also have been, in a sense, obvious to try. The question is: when is an invention that was obvious to try nevertheless nonobvious? . . .

To differentiate between proper and improper applications of 'obvious to try,' [O'Farrell] outlined two classes of situations where 'obvious to try' is erroneously equated with obviousness under § 103.

In the first class of cases[,] what would have been 'obvious to try' would have been to vary all parameters or try each of numerous possible choices until one possibly arrived at a successful result, where the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful. . . . In such circumstances, where a defendant merely throws metaphorical darts at a board filled with combinatorial prior art possibilities, courts should not succumb to hindsight claims of obviousness. The inverse of this proposition is succinctly encapsulated by the Supreme Court's statement in KSR that[,] where a skilled artisan merely pursues known options from a finite number of identified, predictable solutions, obviousness under § 103 arises. . . .

The second class of . . . impermissible 'obvious to try' situations occurs where what was obvious to try was to explore a new technology or general approach that seemed to be a promising field of experimentation, [and] the prior art gave only general guidance as to the particular form of the claimed invention or how to achieve it. . . . Again, KSR affirmed the logical inverse of this statement by stating that § 103 bars patentability unless the improvement is more than the predictable use of prior art elements according to their established functions. . . .

[Consistent with the foregoing], this court [has] observed that an obviousness finding [is] appropriate where the prior art contained detailed enabling methodology for practicing the claimed

> invention, a suggestion to modify the prior art to practice the claimed invention, and evidence suggesting that it would be successful. . . . [O]bviousness does not require absolute predictability of success[,] . . . all that is required is a reasonable expectation of success. . . . The Supreme Court in KSR reinvigorated this perceptive analysis.

In re Kubin, 561 F.3d 1351, 1358-60 (Fed. Cir. 2009) (numerous citations and internal quotations omitted). Relatedly, the Federal Circuit has reaffirmed, post-KSR, its conclusion that "[o]bviousness cannot be avoided simply by a showing of some degree of unpredictability in the art, so long as there was a reasonable probability of success." *See* Proctor & Gamble, 566 F.3d at 996 (citation to quoted source omitted).

In recounting the teachings of KSR, this Court does not mean to suggest that Plaintiff's nonobviousness contentions have no basis in law. *Compare, e.g.*, discussion *supra* (noting Plaintiff's reliance on "vary[ing] all parameters or try[ing] each of numerous possible choices") *with* Kubin, 561 F.3d at 1359 (confirming continued viability these standards). Plaintiff's suggestion, however, that KSR "did very little, if anything, to change the legal test for obviousness," (*see* Doc. 104 at 4), fails to account for the analyses and subsequent case law from the Federal Circuit recited above.[7]

[7] Also unpersuasive are Plaintiff's varied attempts to distinguish KSR from the instant case. *See* Doc. 104 at 10-12. Plaintiff's theory of nonobviousness (*i.e.*, that *Slater*'s teachings regarding iron powder would, at best, make copper powder "obvious to try") goes to the heart of the issues addressed in KSR, and amplified in Kubin.

5. Anticipation and Obviousness in This Case

Regarding anticipation, Defendant argues that every element and limitation in the PIS claims were described, either expressly or inherently, in *Slater*, so as to place a person of ordinary skill in possession of the invention. *See generally* Def.'s Br. (Doc. 122) at 5-6. The Court agrees.[8]

Independent Claim 1 (and 39) discloses a frangible bullet (and method of making said bullet) that:

> compris[es] at least 60 percent by weight copper and [is] manufactured by pressing a copper-containing powder in a die to form a pressed powder compact and subsequently sintering said pressed powder compact, wherein said sintering is partially impeded either[:]
>
> (i) by the addition of a frangibility effecting additive to said powder, or
>
> (ii) through control of density of said pressed powder compact, or
>
> (iii) through control of sintering temperature, or sintering time, or
>
> any combination of the above; so as to produce a bullet capable of fragmenting upon impact with a target.

See discussion *supra*.

Slater likewise discloses a "bullet," made of "a metal core . . . formed from a sintered metal powder," comprising of five potential constituents, including "copper." *See id.* In *Slater*, frangibility may be controlled "by selection of appropriate . . . sintering parameters,"

[8] Plaintiff's Motion for Summary Judgment on validity is restricted, in most respects, to refuting Defendant's arguments regarding anticipation and obviousness. *See generally* Pl.'s Br. (Doc. 104). To the extent that Plaintiff's affirmative request for summary judgment raises additional issues, they are addressed in this Report.

including "the pressure used for producing the green preform, and the temperature and duration of the sintering process, as well as the particle size of the . . . powder." *See id.*

All of the elements and limitations in the PIS, save "the addition of a frangibility effecting additive," are expressly disclosed in *Slater*. Defendant asserts, and Plaintiff fails to dispute, that *Slater*'s failure to reference "frangibility effecting additive[s]" is immaterial for the purposes of anticipation. *See* Def.'s Br. (Doc. 122) at 14 *and* Medichem, S.A. v. Rolabo, S.L., 353 F.3d 928, 934 (Fed. Cir. 2003) ("[i]t is . . . an elementary principle of patent law that when, as by a recitation of ranges or otherwise, a claim covers several compositions, the claim is 'anticipated' if one of them is in the prior art") (citation to quoted source omitted); *see also* Def.'s Br. at 19-20 (product-by-process claims, like those reflected in PIS Claims 1, 2, 5, 7, 13 and 15, are not limited by process steps) *and* SmithKline Beecham Corp. v. Apotex Corp., 439 F.3d 1312, 1317 (Fed. Cir. 2006) ("[i]t has long been established that one cannot avoid anticipation by an earlier product disclosure by claiming the same product more narrowly, that is, by claiming the product as produced by a particular process").[9]

In most respects, Plaintiff does not dispute that the elements and limitations in the PIS are present in *Slater*. Rather, Plaintiff emphasizes that the specific embodiments in *Slater* are directed at a frangible bullet comprised of iron, and that copper is only addressed in passing. *See* Pl.'s Opp'n Br. (Doc. 133) at 2-3. According to Plaintiff, "undue experimentation" would be required to apply *Slater* to a frangible bullet made predominantly of copper. *See id.* at 3. The evidence is to the contrary.

[9] The District Court also should find that the PIS's reference to additives does not render the invention nonobvious. *See* discussion *supra* (summarizing inventor Roy Kelly's testimony that he learned of Royal Ordinance's use of additives to "encourage [a] lack of full sintering"; *see also* Def.'s Br. (Doc. 122) at 17-18 *and* 21-24 (identifying testimony of Plaintiff witnesses, and prior art references, demonstrating that use of additives in sintering has long been known to persons of ordinary skill in relevant art).

When PIS inventor Roy Kelly, equipped with knowledge acquired from his prior employer (and *Slater* owner) Royal Ordinance, set out to fabricate a partially sintered copper bullet, he had little difficulty in achieving success "from the outset." *See* discussion *supra*. "Right at the beginning," "based the very earliest trials," Kelly knew he was "on to something," and he had "absolutely no problem" fabricating partially sintered copper bullets. *See id.* ("we had no problem determining that there were bullets that would . . . satisfy the requirement, namely, survive gun launch, leave the barrel intact, . . . and break up on the target"; "establishing the principles that are enunciated . . . in the [PIS], that was [done] very early on").

Kelly's testimony is consistent with, and corroborated by, Plaintiff's own expert witness. Dr. Randal German testified that, given the teachings in *Slater*, "one could go to the lab, and within some reasonable time, reasonable time meaning less than a month, formulate an analog to what's disclosed [regarding] iron in a copper system." *See* Dep. Tr. of R. German (attached as Ex. 38 to Doc. 145) at 39-40. Lest there remain any doubt, Dr. German responded during his deposition:

> Q. . . . In 1994[,] could one of ordinary skill in the art of sintering copper powders make a frangible copper bullet based on routinely available information and the disclosure[s in] *Slater*?
>
> A. Yes.

Id. at 42. Defendant's expert, Dr. Alan Lawley, is in agreement. *See, e.g.*, Declaration of A. Lawley (Doc. 106) at ¶ 13.

Aside from Plaintiff's efforts to explain away this and similar testimony of the parties' witnesses, Plaintiff points only to Dr. Lawley's "admi[ssions]" that one skilled in the art "would need much more detail (*e.g.*, powder size, density, time, temperature) to produce a [copper] bullet . . . based only on the teachings of *Slater* with regard to iron." *See* Pl.'s Opp'n Br.

(Doc. 133) at 3 (citing Dep. Tr. of A. Lawley at 69-70, 72-73). Dr. Lawley's testimony does not, however, refute the plain conclusion that one skilled in the art could make a frangible copper bullet without resort to undue experimentation. *Cf. generally* discussions *supra* ("[o]bviousness cannot be avoided simply by a showing of some degree of unpredictability," "so long as there was a reasonable probability of success").[10]

This is not a case where applying the teachings of *Slater* to copper bullets required Mr. Kelly "to vary all parameters or try each of numerous possible choices until [he] arrived at a successful result." *See* discussion *supra*. Given his and Dr. German's testimony, no reasonable juror could conclude that Mr. Kelly was "throw[ing] metaphorical darts at a board filled with combinatorial prior art possibilities." *See id.* Rather, this case presents a textbook example "where a skilled artisan merely pursue[d] 'known options' from a 'finite number of identified, predictable solutions.'" *See id.*[11]

Independent Claims 1 and 39 are anticipated by *Slater*. So too are the dependent claims upon which Plaintiff now relies. *Compare* PIS Claim 2 (identifying lead-free bullet) with *Slater* at 2 (contemplating same); PIS Claim 5 ("ammunition comprising the bullet of [C]laim 1") *with Slater* Claim 19 (same); PIS Claims 7 & 40 (repeating language identical to that found in

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[10] Because the parties having declined to parse the eight-part inquiry regarding "undue experimentation," their positions regarding anticipation and obviousness are, in many respects, the same. *See* discussion *supra* (explaining that Plaintiff resists Defendant's claims of anticipation and obviousness on parallel grounds). To the extent that the undersigned recites obviousness standards in connection with anticipation, this has been done largely for illustrative purposes, and, in any event, Defendant's Motions should be granted, independently, under both anticipation and obviousness.

[11] Plaintiff offers no legal or factual support for its proposition that, to be enabling, *Slater* was required to disclose every parameter necessary to sinter copper-predominant powders. Defendant has placed into the record technical manuals setting out such parameters. *See* Def.'s Reply Br. (Doc. 145) at 4 (citing record evidence). As Defense counsel aptly observes, under Plaintiff's construction of enablement, the PIS itself would not be an "enabling disclosure" beyond the specific embodiments addressed therein. *See id.* at 6-7.

independent Claims 1 & 39) *with* discussion *supra* (finding independent Claims 1 & 39 anticipated by *Slater*); *and* PIS Claims 13 & 15 (identifying powders comprising of "copper powder and from 2 to 20 percent by weight of tin powder" or "about 90 percent by weight copper and about 10 percent by weight tin") *with Slater* at 2 (contemplating use of "bronze") *and Markman* Hearing testimony of R. German (Doc. 56) at 40, 46-48 ("bronze" is a copper/tin mixture, predominantly of copper, where either "each particle is an alloy," or where pure copper and tin powders are mixed).[12]

For all of these reasons, Defendant has demonstrated that the relevant PIS claims were anticipated by *Slater*.[13] Obviousness is apparent for essentially the same reasons. *See* discussions *supra* regarding anticipation (analogizing to standards applicable for obviousness). Defendant is entitled to summary judgment on these theories, and nothing in Plaintiff's briefing compels a contrary result.[14]

Plaintiff attempts to overcome the statements of its expert, Dr. German, arguing that they related to a copper-predominant bullet, and "*Slater* does not disclose such a copper bullet."

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[12] In its opposition brief, Plaintiff presents a five-page foray into whether "bronze," as referenced in *Slater*, means "pre-alloyed bronze," as opposed to a mixture of pure copper and tin powders. *See id.* (Doc. 133) at 9-13. At the *Markman* hearing, Plaintiff's own expert witness Dr. German testified that "bronze" could be either. *See* testimony cited in text, *supra*. In the end, this dispute is much ado about little, given that: (a) the anticipation standard allows elements and limitations to be "inherently" disclosed in the prior art reference; (b) Defendant presents undisputed evidence that the mixtures referenced in PIS Claims 13 and 15 have been used in the pertinent art for decades, *see* Def.'s Br. (Doc. 122) at 16-17 *and* Def.'s Reply Br. (Doc. 145) at 7 (citing record evidence); and (c) the potential use of predominantly copper mixes therefore was obvious to a person of ordinary skill in the art.

[13] Defendant has identified a somewhat related, but independent, basis for anticipation regarding Claims 1, 2, 5, 7, 39 & 40. Specifically, Plaintiff's expert Dr. German conceded that, "if a bullet was made in accordance with *Slater* and the bullet is made out of copper," the bullet would infringe each of these PIS Claims. *See* Def.'s Br. (Doc. 122) at 18 (quoting deposition testimony of R. German). "That which infringes[,] if later, anticipates if earlier," and Defendant's argument is well taken. *See* SmithKline, 439 F.3d at 1321 (citations omitted).

[14] The Court will restrict its discussions to those arguments of Plaintiff not rejected, explicitly or by direct implication, above.

See, e.g., Pl.'s Opp'n Br. at 5. Of the five powder constituents identified in *Slater*, however, two of them were copper-predominant (*i.e.*, copper and bronze). *See* discussion *supra*. To the extent that Plaintiff argues *Slater* does not disclose a copper bullet, its arguments necessarily circle back to its "undue experimentation" and "obvious to try" theories, which already have been rejected above.

Next, Plaintiff presents arguments regarding the "adherent coating" in *Slater*. *See generally Slater* at claim 1; *see also* Pl.'s Opp'n Br. (Doc. 133) at 7-8; Pl.'s Br. (Doc. 104) at 7; Pl.'s Reply Br. (Doc. 143) at 4. While there may be disputes regarding whether the "coating" was necessary for a *Slater* bullet to survive firing without prematurely fracturing,[15] this fails to defeat either anticipation or obviousness.

The anticipation analysis "asks solely whether the prior art reference discloses and enables the claimed invention, and not how the prior art characterizes that disclosure or whether alternatives are also disclosed." Hewlett-Packard Co. v. Mustek Sys., Inc., 340 F.3d 1314, 1325 n.6 (Fed. Cir. 2003) (citation omitted, emphasis added). Stated somewhat differently, "[t]he law of anticipation does not require that the reference 'teach' what the subject matter of the patent teaches"; "[i]t is only necessary that the claims under attack, as construed by the court, 'read on' something disclosed in the reference." *See* Celeritas Techs., Ltd. v. Rockwell Int'l Corp., 150 F.3d 1354, 1361 (citation to quoted source omitted, emphasis added).

For the purposes of anticipation, the PIS is not required to "teach" the alternative feature in *Slater* (*i.e.*, the adherent coating), because "the claims under attack, as construed by the court,

[15] *See, e.g.*, Pl.'s Opp'n Br. (Doc. 133) at 8 (citing deposition testimony of Dr. Lawley, which included statement that, "[w]ithout doing experiments, [he did] not know" whether uncoated *Slater* bullet would survive firing process).

'read on' something disclosed in the [prior] reference," *i.e.*, the partial sintering of copper-predominant powders to increase frangibility. *See* discussions *supra*.

Plaintiff's reliance on the adherent coating in *Slater* also fails to defeat obviousness, because it was apparent to one with ordinary skill in the art to apply the teachings of *Slater* to a non-coated bullet. S*ee* testimony of R. Kelly, quoted *supra* (discussing his prompt fabrication of non-coated, partially sintered copper bullets) *and* testimony of R. German (stating, without reference to coating, that "one of ordinary skill in the art" could "make a frangible copper bullet based on routinely available information and the disclosure[s in] *Slater*"); *see also* KSR, 550 U.S. at 421 ("[w]hen there . . . are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp").

There is no basis on which a jury reasonably could conclude that the PIS was not anticipated by *Slater*, or was nonobvious, and summary judgment should be entered in favor of Defendant.

B. Derivation

A person is not entitled to a patent if "he did not himself invent the subject matter sought to be patented." Eaton Corp. v. Rockwell Int'l Corp., 323 F.3d 1332, 1344 (Fed. Cir. 2003) (quoting 35 U.S.C. § 102(f)). To prove derivation, "the party asserting invalidity must prove both prior conception of the invention by another and communication of that conception to the patentee," by clear and convincing evidence. *Id.* (citation omitted). The communication must be sufficient to enable one of ordinary skill in the art to make the patented invention. *Id.*

The testimony of PIS inventor Roy Kelly establishes both prior conception, by *Slater* owner Royal Ordinance, and communication of that conception to the inventor (*i.e.*, Kelly, as an employee of Royal Ordinance). *See* deposition testimony of R. Kelly, quoted *supra*.

That the communications enabled Kelly, being one of ordinary skill in the art, to make the patented invention also is clear. *See* discussion *supra* (citing Kelly's testimony regarding ease with which he applied knowledge conceived in *Slater* to partially sintered, copper bullet).

Kelly and his co-inventor, Anil Nadkarni, appear to have formed the belief that, by switching from iron bullets (discussed in the detailed embodiments in *Slater*) to copper-predominant bullets, they had come upon a novel, patentable invention. *See, e.g.*, Dep. Tr. of A. Nadkarni (filed as Ex. 7 to Doc. 118) at 86 (admitting that *Slater* "disclose[d] a frangible bullet comprising at least 60 percent by weight copper," but adding that *Slater* "[did]n't talk [specifically] about how to make copper powder into a bullet"; "[i]t talks mainly about iron powder").

While these witnesses may have been sincere in their beliefs, this does not create a material issue of fact regarding prior conception, communication, and enablement. Those elements are established through the testimony of PIS inventor Roy Kelly, and Defendant is entitled to summary judgment based on derivation.

In opposition, Plaintiff mostly attempts to poke holes in the testimony of Kelly, as quoted and relied upon above. *See, e.g.*, Pl.'s Opp'n Br. (Doc. 125) at 2-7 (claiming Kelly lacked sufficiently detailed knowledge and experience regarding Royal Ordinance's work with partially sintered, frangible bullets); *see also id.* at 8 (although parties "do not dispute the literal content of [Kelly's] testimony per se," they "sharply disagree on what inferences are to be drawn" from it). In the undersigned's view, however, Mr. Kelly's testimony speaks for itself, and a jury could not

reasonably accept the supposed "inferences" drawn by Plaintiff to overcome Defendant's showings of derivation.[16]

Thus, Defendant's Motion for Summary Judgment regarding derivation is well taken.

CONCLUSION

For all of the reasons stated above, summary judgment should be granted in favor of Defendant on the independent grounds of anticipation, obviousness and derivation (*see* Docs. 114 & 110). Furthermore, Plaintiff's Motion for Summary Judgment on validity (Doc. 104) should be denied, and Plaintiff's Motions for Summary Judgment on infringement (Doc. 107) and lack of inequitable conduct (Doc. 101) should be denied as moot.

In accordance with the Magistrate's Act, 28 U.S.C. § 636 (b)(1)(B) and (C), and Rule 72.1.4 (B) of the Local Rules for Magistrates, objections to this Report and Recommendation are due by August 14, 2009. Responses to objections are due by August 26, 2009.

July 28, 2009

s/Cathy Bissoon
Cathy Bissoon
United States Magistrate Judge

cc (via email):

All Counsel of Record

[16] The parties spend some time debating how, specifically, Kelly decided to investigate copper-predominant bullets. *Compare* Pl.'s Opp'n Br. (Doc, 125) at 3-4 *with* Def.'s Reply Br. (Doc. 144) at 6-8. This discussion is immaterial, given: (a) *Slater*'s specific anticipation of copper-predominant bullets, *see* discussions *supra*; and (b) Defendant's undisputed evidence that copper-predominant powders have been used in the fabrication of bullets for decades. *See* Def.'s Br. (Doc. 122) at 16-17 (citing record evidence). In light of the clear evidence of derivation, moreover, the Court is unpersuaded by Plaintiff's reliance on the delay between Kelly leaving Royal Ordinance and his pursuit of the PIS. *See* Pl.'s Opp'n Br. (Doc. 125) at 5-6. In light of Kelly's testimony, no amount of discourse regarding the timing of the PIS application, and the potential causes thereof, call into reasonable doubt the Court's findings in support of derivation.