Advanced Software Design Corporation et al v. Federal Reserve Bank of St. Louis et al Doc. 296

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MISSOURI
EASTERN DIVISION

ADVANCED SOFTWARE DESIGN CORPORATION, et al.,	)	
Plaintiffs,	)	
vs.	)	Case No. 4:07CV185 CDP
FISERV, INC.,	)	
Defendant.	)	

MEMORANDUM AND ORDER

This patent infringement case is set for trial on June 27, 2012, and before me now are various motions for summary judgment and to exclude testimony. As set forth below, I will deny the motions.

I. Background

Plaintiff Advanced Software alleges that defendant Fiserv's "Secure Seal" product infringes a patent titled "Apparatus and Method for Enhancing the Security of Negotiable Instruments," patent no. 6,792,110. The Court of Appeals described the case as follows:

> Advanced Software and Fiserv offer competing products for preventing check fraud and forgery. The products generally work by encrypting selected information on a check, such as the name of the payee or the amount of the check, and printing the encrypted information on the check. When someone attempts to cash a protected check, the products validate the check by decrypting the encrypted information and comparing it to the corresponding unencrypted information that has been entered on the check. If the decrypted

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> information does not match the selected unencrypted information on the check, the check is deemed fraudulent or forged and will not be cashed.

Advanced Software Design Corp. v. Fiserv, Inc., 641 F.3d 1368, 1371 (Fed. Cir. 2011). The independent claims relevant to these motions are Claims 1 and 9, as all other asserted claims are dependent on these and do not materially change the analysis of the motions.

Claim 1 is a process claim and states:

> A process of validating a negotiable financial instrument by a payor, in which selected information found on the financial instrument which varies for each instantiation of the financial instrument made by the same payor is encrypted in combination with key information not found on the financial instrument to generate a control code which is printed on the financial instrument along with the selected information, the process comprising:
>
> reading the selected information from the financial instrument; and
>
> one of (i) decrypting the control code to thereby obtain decrypted information whereby the cheque validator may refuse to honour the financial instrument if the selected information found on the financial instrument does not match the decrypted information, and (ii) re-encrypting the selected information as presented on the financial instrument to re-obtain a second control code, whereby the cheque validator may refuse to honour the financial instrument if the second control code does not match the control code printed on the financial instrument.

'110 patent, col. 13, l. 60 - col. 14, l. 13. Claim 9, a system claim, states:

> A system for validating the authenticity of selected information found on a negotiable financial instrument, wherein the selected information varies for each instantiation of the financial instrument presented by the same payor, and wherein the selected information is encrypted in

> combination with key information not found on the financial instrument to generate a control code which is printed on the financial instrument along with the selected information, the system comprising:
>
> a scanner for reading the selected information and the control code from the financial instrument; and
>
> a data processing device programmed to (i) decrypt the control code and generate decrypted information for comparison against the selected information found on the financial instrument and for generating a signal in response to the equality thereof, or (ii) re-encrypt the selected information as found on the financial instrument to re-obtain a second control code and for generating a signal in response to the quality of the control code found on the financial instrument against the second control code.

'110 patent, col. 14, ll. 35-55. The Federal Circuit held that the preamble in each claim defines the environment in which the invention works, and is not part of the claim. *Advanced Software Design Corp.*, 641 F.3d at 1375. "[T]he asserted claims of the '110 patent recite a process or system for validating checks, not for encrypting and printing them." *Id.* Although the process steps or the system contents listed in the preambles must have been done or exist in the checks before the patented invention can be used to validate them, it does not matter whether the accused infringer does or induces others to do those things.

II. <u>Fiserv's Motions for Summary Judgment of Invalidity</u>

I previously denied both parties' motions for summary judgment relating to invalidity, because I concluded genuine issues of material fact remained. Fiserv has now filed two additional motions claiming invalidity. One motion argues that the '110 patent is invalid as being anticipated and/or obvious under 35 U.S.C. §102

and § 103, and cites two references that were not before me previously. I again conclude that genuine disputes of material fact remain regarding these issues.

Fiserv's second motion on invalidity presents a question of law: whether the patent is invalid under 35 U.S.C. § 101 as covering unpatentable subject matter – either an abstract idea or a law of nature. Although this motion is a very close call, I will deny it, as I believe the invention in this case is most like those inventions that have met the standards of patentability set forth by the Supreme Court and the Federal Circuit.

A. Anticipation

In the previous motions for summary judgment for anticipation, the parties cited four references: White, Merkle, Schatz, and Wang. Fiserv now asserts two additional references. The first is an article by Jose Pastor, titled "CRYPTOPOST A Cryptographic Application to Mail Processing." The second is U.S. Patent No. 3,990,558, referred to by the parties as the Ehrat reference.

The presumption that issued patents are valid is set out in 35 U.S.C. § 282. "To show that a patent claim is invalid as anticipated, the accused infringer must show by clear and convincing evidence that a single prior art reference discloses each and every element of a claimed invention." *Krippelz v. Ford Motor Co.*, 667 F.3d 1261, 1265 (Fed. Cir. 2012). The parties have numerous disputes regarding these two references. I am here setting out two areas that I am sure raise genuine

issues of disputed fact. This does not mean that these are the only disputed facts, it merely demonstrates that there is not clear and convincing undisputed evidence showing the '110 patent is anticipated by either reference.

First, Fiserv argues that Pastor anticipates the '110 patent because the postage stamp in Pastor can constitute a "financial instrument." Advanced Software argues that "financial instrument" refers back to "negotiable financial instrument," and a postage stamp is not negotiable. I agree with Advanced Software on this point.

Fiserv is urging a hyper-technical reading of common-sense language. Each of the references to "financial instrument" or "instrument" relates back to the initial reference to "negotiable financial instrument." Additionally, every iteration of "negotiable financial instrument" is preceded by the indefinite article "a," whereas every iteration of "financial instrument" or "instrument" is preceded by the definite article "the." "Negotiable financial instrument" is thus the antecedent to which all uses of "financial instrument" refer, and so that narrower definition should be applied throughout. *See Creative Internet Adver. Corp. v. YahooA, Inc.*, No. 2010-1215, 2011 WL 1522414 at *4 (Fed. Cir. Apr. 22, 2011) (citing *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008) (holding that the subsequent use of definite articles "the" or "said" reinvoke the meaning of the antecedent claim term)). A person of ordinary skill in the art would not understand a postage stamp to be a "negotiable financial instrument."

Second, the parties dispute whether both Pastor or Ehrat disclose the use of "selected information." The parties previously agreed on the following construction for selected information: "Collection of encryptable information chosen to be protected pertaining to the check." Advanced Software argues that this means the information selected for protection must be chosen, and that neither reference discloses this limitation.

The plain meaning of "*selected* information" is that something is selected, or chosen. Otherwise, the language could have been "check information being protected," or something of that nature. Furthermore, the dependent claims Fiserv relies on all say, "wherein the selected information *includes* . . ." (emphasis added). "Includes" means that it is not exclusive, or in other words, the payor has chosen at least the specified information (e.g. monetary value), but could also choose to include more. "Selected information" therefore requires that the information be chosen. I believe that genuine disputes remain regarding whether the Pastor reference discloses this. Additionally, the Pastor reference does not include re-encryption as a method of validation, and that is an element of the '110 claims.

Genuine disputes also remain regarding whether Ehrat discloses the use of selected information. In the Ehrat process, the check amount and check serial number are enciphered to produce a crypto code. These amounts are automatically encrypted. Although Fiserv argues that the user has the option of including more or

less information on the face of the check, which would then also be encrypted, I do not find that this has been shown by clear and convincing evidence. Additionally, genuine disputes remain regarding whether the "algorithm" in Ehrat can be widely distributed without compromising security.

B. Obviousness

The previous summary judgment motions addressed Fiserv's obviousness defense based on prior art references referred to as Chapman, Oz, Tygar and Yee, as well as a list of 10 others. Fiserv this time argues obviousness based on Ehrat in connection with White, Merkle, and Schatz.

Each side has presented expert testimony supporting its arguments. I again conclude that the language of the patent and of the prior art references, as well as the expert reports, raise questions of fact regarding what the prior art discloses and whether it would have been obvious to one skilled in the art to combine different elements of these various prior art references. Additionally, there are numerous disputes about the success or lack thereof of this invention, and resolution of the factual issues regarding these secondary considerations makes summary judgment inappropriate.

C. Abstract Idea or Law of Nature

Fiserv's motion for summary judgment of invalidity under 35 U.S.C. § 101 argues that the subject matter of the '110 patent is not patentable. I agree with

Advanced Software that the patent passes the § 101 "coarse eligibility filter" or threshold of patentability.

As a preliminary matter, I reject Advanced Software's arguments that this issue was not timely disclosed and that it conflicts with a position taken by Fiserv regarding another patent. Fiserv addressed § 101 in its affirmative defenses and counterclaims, and after the case was remanded from the Federal Circuit, Fiserv again indicated an intention to file this motion. This issue is no surprise, and it was timely raised. Additionally, I am not concerned with Fiserv's argument in some other case, as this motion presents a question of law; arguments in other cases are not relevant to the legal issue presented by the patent in this case.

The merits of this argument present a very close case, especially in light of recent Supreme Court cases and Federal Circuit cases that – at least to me – do not make this decision any easier. Section 101 explains that only inventions can be patented: "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 therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101. The courts have recognized "an important implicit exception: '[L]aws of nature, natural phenomena, and abstract ideas' are not patentable." *Mayo Collaborative Servs. v. Prometheus Labs, Inc.*, 132 S. Ct. 1289, 1293 (2012); *Bilski v. Kappos*, 130 S. Ct. 3218, 3225 (2010).

In *Bilski*, the Supreme Court held that the Federal Circuit's "machine or transformation" test was not the exclusive test for distinguishing patentable subject matter from an unpatentable abstract idea. In doing so it summarized the abstract idea precedent. First it addressed *Gottschalk v. Benson*, 409 U.S. 63, 72, 93 (1972), which held that something is unpatentable where it would "wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself." *Bilski*, 130 S.C5. at 3230 (quoting *Gottschalk, 409 U.S. at 72).* In *Parker v. Flook*, 437 U.S. 584 (1978), the Court held that the prohibition against patenting abstract ideas "cannot be circumvented by attempting to limit the use of the formula to a particular technological environment" or adding "insignificant postsolution activity." *Bilski*, 130 S.Ct. at 3230 (quoting *Diamond v. Diehr*, 450 U.S. 175, 191-92 (1981)). Finally, in *Diehr*, the Court held that while an abstract idea could not be patented, "an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection." 450 U.S. at 187; *see also Research Corp. Techs., Inc. v. Microsoft Corp.*, 627 F.3d 859, 869 (Fed. Cir. 2010) ("inventions with specific applications or improvements to technologies in the marketplace are not likely to be so abstract that they override the statutory language and framework of the Patent Act").

Although the Supreme Court's more recent *Prometheus* case dealt with a "law of nature" rather than an "abstract idea," it also found the algorithm cases of

Flook and *Diehr* to be instructive. 132 S.Ct. at 1293-94. The Court held that Prometheus's patents simply appended generalized conventional steps to a law of nature. *Id.* at 1299-1300. Neither *Bilski* nor *Prometheus*, however, changed the rule that "an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection." *Diehr*, 450 U.S. at 187.

Both the Supreme Court and the Federal Circuit recognize that § 101 is meant to allow patentability of most new processes or systems. The Federal Circuit has referred to § 101 as "merely a threshold check" and "broadly inclusive." *See Ultramerical, LLC v. Hulu, LLC*, 657 F.3d 1323, 1326 (Fed. Cir. 2011). Similarly, the Supreme Court has referred to § 101 as a "threshold," and has recognized that Congress took a "permissive approach" to patentability. *Bilski*, 130 S.Ct. at 3225.

Fiserv argues that neither Claim 1 nor Claim 9 meets the machine or transformation test, which *Bilski* found was still a useful tool. *Id.* at 3227. Fiserv argues that Claim 1 merely sets out steps that can be performed entirely in the human mind, while Advanced Software argues that both the control code and the printed check constitute transformations. Fiserv argues that the scanner and programmed data processing device (which are obviously machines) of Claim 9 do not add meaningful limits to the scope of the claim.

Fiserv cites two post-*Bilski* Federal Circuit cases in support of its argument. In *Cybersource Corporation v. Retail Decisions Inc.*, 654 F.3d 1366 (Fed. Cir. 2011), the court found a method for detecting fraud in internet credit transactions unpatentable because the claims listed steps that "could all be performed by human thought alone . . ." *Id.* at 1372-73. In *Dealertrack, Inc. v. Huber*, 674 F.3d 1315 (Fed. Cir. 2012), the court held that a claimed process describing the steps of receiving data from one source, selectively forwarding the data to another source, and then forwarding reply data to the first source, even if "computer-aided," was "invalid as being directed to an abstract idea preemptive of a fundamental concept or idea that would foreclose innovation" in the field. *Id*. at 1333. The invention here, however, does more than either of those claimed inventions.

Even though the preambles here are not part of the claims, both parties agree that they limit the claims, and so it is appropriate to consider them in discussing this issue. I agree with Advanced Software that the process and system set out in the preambles meet the machine or transformation test. Both claims, when considered in the context of the entire patent, including its specifications, contemplate the use of a computer that is specially programmed to perform the encryption that is necessary for the invention to have any useful purpose. This is analogous to the patent in *Ultramerical*, where the test was met because, "Viewing the subject matter as a whole, the invention involves an extensive computer interface." 657 F.3d at

1328. Additionally, the creation of the control code by encryption of selected information in connection with key information, required by both preambles, constitutes transformation, and is not "the mere manipulation or reorganization of data" which was insufficient in *Cybersource*. 654 F.3d at 1375. Finally, the patent contemplates that the printing of the control code will be done by a machine.

Moreover, I conclude that the validation steps of Claim 1 meet the machine prong of the test – which is met if the process is "tied to a particular machine." *See Bilski*, 130 S.Ct. at 1325-27. Fiserv is correct that nothing in the plain language of the claim mentions a machine, but the specification regarding the re-encryption or decryption steps contemplates use of a computer to perform those steps. The specification refers to a "verification system", and the preferred embodiment uses a machine readable code such as a bar code. When read as a whole, the patent contemplates using a computer.

Similarly, the validation system in Claim 9 explicitly contemplates using both a scanner and a programmed "data processing device." The scanner itself may not be sufficient to confer patentability if all it does is gather data. *Cybersource*, 654 F.3d at 1372. But the "data processing device" must be programmed to perform the re-encryption or decryption functions. The court has recognized that "programming creates a new machine, because a general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular

functions pursuant to instructions from program software." *Ultramercial*, 657 F.3d at 1328-29. *Ultramercial* further provides that, "assuming the patent provides sufficient disclosure to enable a person of ordinary skill in the art to practice the invention and to satisfy the written description requirement, the disclosure need not detail the particular instrumentalities for each step in the process." *Id.* at 1329. The court also relied on the fact that the claims were "likely to require intricate and complex computer programming" and "clearly required specific application" to a narrow field. *Id.* at 1328. I conclude that the invention here is more like that in *Ultramerical* than in the cases relied on by Fiserv. It does more than merely state that a general purpose computer should be used, because it identifies a scanner and programmed data processing device, and it requires complex programming for a specific application to a narrow field.

Finally, I do not believe the subject is unpatentable because it uses an algorithm, or that it would "wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself." *Cf. Gottschalk v. Benson*, 409 U.S. at 72, 93. Nor do I believe that this is just an attempt to limit the use of the algorithm to a particular technological environment, as with the unpatentable system in *Flook*. Instead, I believe the case is more like *Diehr* and is, like the invention in *Diehr*, applies a "mathematical formula in a structure or process which, when considered as a whole, is performing a function which the patent laws were

designed to protect." 450 U.S. at 191-92; *see also Research Corp. Techs., Inc.*, 627 F.3d at 869 ("inventions with specific applications or improvements to technologies in the marketplace are not likely to be so abstract that they override the statutory language and framework of the Patent Act").

For all the above reasons, I conclude that '110 patent does not cover unpatentable subject matter, and it therefore passes § 101's threshold test.

III. <u>Advanced Software's Motion for Summary Judgment of Infringement</u>

Advanced Software has filed a motion for partial summary judgment, arguing that Fiserv infringes claims 1, 5, 6, 7, 8, 9, 13, 14, and 15 of the '110 patent. Fiserv argues that operation of the Secure Seal product does not infringe because the environmental limitations of the preamble are not met, and because it does not meet all of the validation limitations present in the patent. For infringement, every claim limitation must be present in the accused device. *See Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247-48 (Fed. Cir. 2000). I conclude that genuine disputes of material fact exist regarding claim limitations, and I will list some of those issues here.

A. The Preamble Requirements

Fiserv argues that the checks validated by Secure Seal do not satisfy the preamble requirements of the '110 patent because Secure Seal does not (i) use key information, (ii) use encrypted information, (iii) perform an encryption, or (iv)

encrypt selected information in combination with key information. I conclude that genuine disputes remain with regard to at least the question of whether Secure seal encrypts selected information in combination with key information.

Fiserv argues that the permutation seed (the key information) is not encrypted in combination with selected information because it is not incorporated into the end result of the permutation algorithm. This argument relies on testimony from Dr. Jagannathan, who stated that "a permutation . . . does not involve any combination whatsoever – mathematical or otherwise – with any other piece of information. Additionally the permutation seed is not incorporated in the end result of the rearrangement." Jagannathan Decl. at ¶ 113. Advanced Software argues that this conflicts with Dr. Jagannathan's *Markman* testimony, as well as the testimony of Secure Seal's developer, Mr. Wells. Given the competing testimony and evidence, this issue presents a genuine issue of material fact to be decided by a jury.

B. The Validation Steps

I agree that Fiserv has shown genuine disputes of material fact at least as to whether Secure Seal decrypts, as to whether Secure Seal reads selected information from the face of the check, and as to whether Secure Seal compares information, all as contemplated by the '110 patent. These disputes preclude summary judgment of infringement.

I previously ruled that "decrypt" means "the reverse process of 'encrypting,' applied to a control code and using the proper key." Docket No. 107 at 21. Fiserv argues that Secure Seal does not decrypt because it does not use a key, and does not use the reverse process of encoding when decoding. Genuine disputes remain regarding whether what Secure Seal does to decrypt is the reverse of encryption, and exactly whether Secure Seal uses a key is still not clear to me from the record. Fiserv's arguments on this point have shifted with the various rulings in the case, but at least as far as I can tell from the record, this remains a disputed issue.

Fiserv's last two arguments both concern what the Secure Seal process does with the decrypted information. Fiserv argues that Secure Seal does not allow a user to refuse to honor a check if the selected information does not match the decrypted control code, and that Secure Seal does not generate a signal in response to the equality of the control code and the decrypted selected information. Fiserv's argument is that Secure Seal simply provides decoded information to a database, where another software application does the actual comparison with the check information. Since, allegedly, no comparison is done by Secure Seal, it cannot generate a signal in response to the equality of information (since it does not know whether there is equality or not). Although Advanced Software argues that Fiserv's witnesses have testified to the contrary, I do not find the evidence as clear as Advanced Software would urge, and I believe this is a remaining fact issue.

IV. Expert Witnesses

Fiserv seeks to exclude Advanced Software's damages expert, Michael T. Lewis, and Advanced Software seeks to exclude Fiserv's damages expert, Richard Bero. Additionally, each side seeks to exclude opinion testimony of other witnesses, Srinivasan Jagannathan (Fiserv's obviousness expert) and Calin Sandru (a named plaintiff and the inventor of the '110 patent). I will deny all the motions regarding experts.

A. Damages Experts

Both sides seek to prevent the other's damages expert from testifying, arguing that the opinions are inadmissible under the law relating to damages in patent cases. I have reviewed the reports and briefs under the appropriate standards, and I will deny these motions. Although most of the disputes about the proposed testimony are things that go to credibility and weight of the testimony, rather than its admissibility, I remain concerned about the foundation for both experts' opinions. They give very different versions of the marketplace and even about the products that allegedly incorporate the patented invention, as well as about most other factual issues on which their opinions are based. From the record before me I conclude that factual disputes remain, and so I will deny the motions *in limine* to exclude the testimony. As with many rulings on motions *in limine*, because my ultimate decision on admissibility will depend on the evidence that is actually

presented at trial, this should not be considered a definitive ruling either excluding or admitting the evidence under Rule 103, Fed. R. Evid.

B. Srinivasan Jagannathan

Advanced Software asks that I preclude Fiserv's expert witness Dr. Srinivasan Jagannathan from testifying as to obviousness, on the grounds that he did not apply a proper obviousness analysis. Specifically, Advanced Software argues that Jagannathan failed to provide a reason why a person skilled in the art would combine the prior references. As the Supreme Court pointed out when it rejected the rigid "teaching, suggestion or motivation" test in *KSR International Co. v. Teleflex, Inc.* 550 U.S. 398 (2007), a person of ordinary skill in the art is expected to use common sense and to understand the market demands. *Id.* at 421. *See also Unigene Labs, Inc. v. Apotex, Inc,*, 655 F.3d 1352, 1360-62 (Fed. Cir. 2011). Throughout Jagannathan's report are statements explaining why one skilled in the art would consider combining the various items. The report does not ignore this aspect of the obviousness analysis, as Advanced Software argues.

C. Calin Sandru

Fiserv asks that I not allow the inventor of the '110 patent, Calin Sandru, to give opinion testimony. On March 29, 2012, Advanced Software disclosed Sandru as a non-retained expert expected to provide technical or opinion testimony regarding "the scope and content of the prior art, as well as the differences between

the prior art and the asserted claims" of the '110 patent. The disclosure also said, "He may also present technical/opinion testimony regarding encryption technology, check security features, check clearing processes, and the use of encryption technology in connection with check fraud prevention." Fiserv argues that this disclosure is untimely and that it will be prejudiced if Sandru is allowed to testify.

I will deny this motion. As Advanced Software points out, both Rule 26, Fed. R. Civ. P., and the Case Management Order have been amended during the long pendency of this case. This intersection of changing federal rules and multiple Case Management Orders necessarily has resulted in some uncertainty about when things should have been disclosed. Additionally, when fact witnesses are also called upon to give opinions, exactly what needs to be disclosed when does not always have a bright-line answer. Fiserv took Sandru's deposition on more than one occasion, and I do not believe that any of his testimony is likely to be a surprise to Fiserv. I will allow Sandru to give opinions that relate directly to his fact testimony, assuming those opinions are relevant and that he is qualified to give them. If Fiserv believes at trial that he is being asked to testify about areas on which he was not deposed or on which he is not qualified to opine, I will consider timely and focused objections.

I caution that no one should interpret this decision as somehow saying that the March 2012 disclosure is or is not compliant with Rule 26 as amended. Instead,

I make this decision in an exercise of my discretion to manage discovery and to control the course of the trial. It is specific to this case, and is a result of the many twists and turns, both procedurally and in the parties' substantive positions, that have occurred since this case began.

V. Conclusion

In conclusion, I am denying all the pending motions, although I acknowledge that some of the issues are quite close. I am concerned about the upcoming trial, however, and here provide some of my concerns for the parties' contemplation.

Counsel have informed me that they believe the jury trial of this case can be completed in a week and a half, and I do not expect to take more time than that. But this is a technical case, and the parties will be required to provide the jury a great deal of information about an area of study most jurors are unlikely to have encountered. The parties must focus their cases on what is important, and I do not want them to waste time or to confuse the judge or the jury with extraneous issues. I expect everyone to be prepared to move quickly through jury selection and to present their evidence without undue delay. Accordingly,

IT IS HEREBY ORDERED that defendant's motions for summary judgment [## 233, 237] and plaintiffs' motion for partial summary judgment [#230] are denied.

IT IS FURTHER ORDERED that all motions to exclude or limit expert testimony [## 260, 263, 266, 290] are denied.

CATHERINE D. PERRY
UNITED STATES DISTRICT JUDGE

Dated this 15th day of May, 2012.