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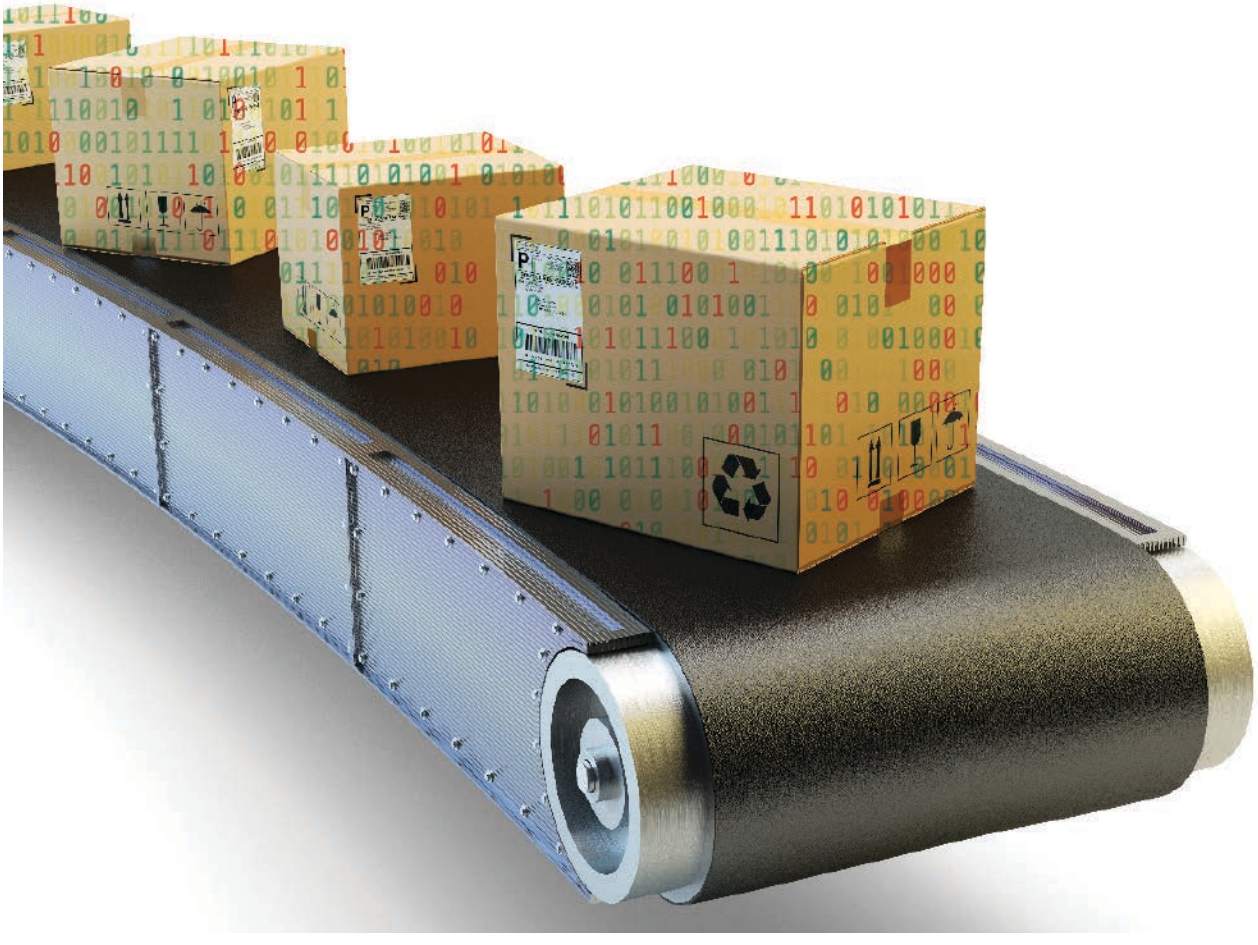
Cybersecurity

Software Patents Still Valuable After *Alice*

A Case Study

By Aseet Patel



The June 2014 United States Supreme Court decision in *Alice Corp. Prop. Ltd. v. CLS Bank Int'l* imposed a heightened standard for patent eligibility — a two-part test that has led many software patents to be held invalid. Two years after *Alice,* the pendulum had barely shifted back from an impulse to invalidate. Except for two decisions, the Court of Appeals for the Federal Circuit (CAFC) had held all non-life science patents challenged under 35 U.S.C. §101 to be patent ineligible.

In the past several months, however, the pendulum has noticeably swung back toward center, with a changing of the guard at the United States Patent and Trademark Office (USPTO), several favorable CAFC holdings, some sharp dissents, and patent bar associations' call to action for legislative reform. The future promises more clarity for United States patents involving software innovations, which should improve depressed patent valuations, increase

patent licensing activity and raise shareholder value.

Alice did not limit its disruption to software patents. In the face of a "big data" revolution, traditional manufacturing companies have embraced and integrated software technologies —industrial Internet of Things (iIoT), cloud computing, machine learning (ML) and predictive analytics — into their manufacturing processes to stay relevant. Many left their patent rights on the table under the false impression that no software innovations are patent eligible after *Alice*.

This article showcases an exemplar cybersecurity company that has pivoted and thrived after *Alice*.

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"ABSTRACT IDEAS"

United States patent law states that a patent can be obtained for "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." The United States Supreme Court has long recognized, however, that 35 U.S.C. §101 implicitly excludes "abstract ideas" from the realm of patent-eligible subject matter, as monopolization of these "basic tools of scientific and technological work" could stifle the innovation it aimed to promote.

The CAFC interpreted *Alice* as mandating a two-step framework to distinguish patents that claim abstract ideas from those that claim patent-eligible applications of those concepts. At the first step, the test requires determining whether the claims at issue are "directed to" a patent-ineligible concept. If they are, then the test considers the elements of each claim individually and as an ordered combination, to determine whether the additional elements transform the nature of the claim into a patent-eligible application. This is sometimes referred to as the search for an "inventive concept" (that is, something sufficient to ensure that the claim amounts to significantly more than the abstract idea itself).

The two-part *Alice* test effectively reigned in the broad interpretation of patent-eligible subject matter under which the CAFC operated since its inception in 1982. For almost two years after *Alice*, it was unclear whether an invention that ran on a general-purpose computer would be patent eligible. Some companies overreacted and assumed that *Alice* meant the end of software patents and stopped filing United States patent applications. The European Patent Office (EPO) reported an increase in European patent applications filed in 2015, while the USPTO reported for the first time in recent history a slight decline in filings, possibly the result of inventors opting to skip the USPTO after *Alice*, and instead file in the EPO.

CASE STUDY: FINJAN, INC.

In the highly competitive cybersecurity industry, restraining copycats and extracting licensing revenue is critical to a company's survival. At the heart of cybersecurity companies are software and cloud-based patents. And the four years after *Alice* have proven difficult. Acquiring patents was a challenge, and the equity market charged a stiff premium for the risk imputed by *Alice*. Nevertheless, some IP companies have embraced and overcome *Alice* to amass profits and shareholder value. Finjan, Inc. is an exemplar.

When the Internet was nascent, Finjan developed and sold cybersecurity technology. But in 2009, Finjan sold its hardware and software divisions. The terms of the divestiture prohibited Finjan from re-entering the product development arena until 2015. As a result, most of the company's revenue has been attributed to its patent enforcement and licensing activities.

According to CEO Phil Hartstein, Finjan has 22 licensees and is in negotiations with nearly 20 more. With its portfolio of more than 40 U.S. patents, Finjan filed nearly 20 patent infringement lawsuits against companies like Sophos, Inc. and Palo Alto Networks, Inc.

In 2013, Finjan sued Blue Coat (*Finjan, Inc. v. Blue Coat Systems, Inc.*) in the United States District Court for the Northern District of California for infringement of four of its United States patents, including one (the '844 patent) directed to identifying and protecting against malware. After losing at the district court, Blue Coat appealed to the CAFC, arguing that the patent was invalid under the two-part *Alice* test. However, Finjan successfully defended its eligibility in January 2018. The CAFC *Finjan* decision provides useful guidance for identifying patent eligibility for software-related inventions, including cybersecurity software. Moreover, the USPTO bolstered the effectiveness of *Finjan* by releasing a memorandum dated April 2, 2018, that reiterated this guidance to its United States patent examiners and patent practitioners.

Finjan's '844 patent is directed to providing computer security by attaching a security profile to a downloadable (that is, a downloadable that is an executable application program), which is downloaded from a source computer and run on the destination computer. Julie Mar-Spinola, Finjan's chief intellectual property officer

and vice president of legal operations, has described the '844 patent as the behavior-based approach to virus scanning pioneered by Finjan.

Claim 1 of the '844 patent, which the court held to be representative, read "A method comprising: receiving by an inspector a Downloadable; generating by the inspector a first Downloadable security profile that identifies suspicious code in the received Downloadable; and linking by the inspector the first Downloadable security profile to the Downloadable before a web server makes the Downloadable available to web clients."

The CAFC framed the question at issue as whether the behavior-based virus scan of the '844 patent constitutes an improvement in computer functionality. In holding that it does, the *Finjan* court looked to the patent specification after first construing two claim terms. As construed, the court noted that the patent claims describe "behavior-based" virus scanning in contrast to traditional "code-matching" virus scanning.

Moreover, the court noted that the claimed "security profile" approach recited specific steps that allowed better filtering over prior art methods. The court rationalized that Finjan's claims recite more than a mere result; instead, they recite specific steps that accomplish the desired result. The *Finjan* court found that the patent claims employ a new kind of file (or data structure) that enables a computer security system to do things that it could not do before, such as accumulating newly available, behavior-based information about potential threats to tailor for different users and identifying threats before a file reaches a user's computer.

More generally, the *Finjan* court affirmed that software-based innovations can make non-abstract improvements to computer technology and can be held patent-eligible at Step 1 of the two-step framework set forth in *Alice*, without even needing to proceed to Step 2. The court holding also seemingly contributed to a sizable financial boon for Finjan. Around the time of this article, Finjan's stock price traded more than 65 percent higher than its price just before the CAFC *Finjan* decision.

Cybersecurity giant Symantec Corporation had acquired Blue Coat Systems, Inc. in 2016. Ultimately, the parties settled out of court in an agreement in which Blue Coat/Symantec paid Finjan a lump sum of $65 million, and potentially another $45 million if Symantec acquires "certain entities" within the next four years. According to Finjan company disclosures, their licensing revenue for the first half of 2018 skyrocketed from $5 million to more than $80 million. It will be interesting to see which "certain entities" Symantec might acquire, further consolidating the cybersecurity market and also boosting Finjan's royalties' revenue.

Tellingly, Finjan seems to have doubled down on patents. In its most recent 10-K filing with the SEC, Finjan subsidiary, Finjan Blue, Inc., announced a Patent Assignment and Support Agreement with IBM in which Finjan Blue acquired select IBM security patents for $8.5 million, and IBM agreed to share institutional knowledge and resources with Finjan Blue in its licensing efforts.

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Cybersecurity companies — and technology companies, generally — should feel encouraged by the *Finjan* decision. Other recent events promise to improve the certainty of patent eligibility as well. At the recent Black Hat USA conference, several panels stressed that artificial intelligence and machine learning will play an important role in the security aspects of future products of all types, including iIoT, self-driving cars and financial trading products.

The *Finjan* decision provides useful guidance about how companies can formulate a strategy to protect their software security innovations incorporating AI and ML. ■

Aseet Patel is a principal shareholder in the Chicago office of Banner & Witcoff, Ltd. He concentrates on patent prosecution and litigation matters primarily in the electrical, computer and business method arts. He also provides opinion counseling services to clients, including various types of clearance opinions on patents.
apatel@bannerwitcoff.com