



**Directorate of Distance Education
NALSAR University of Law, Hyderabad**

Reading Material

Post-Graduate Diploma in Patents Law

Handbook II – Patent Analysis

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Introduction

A Patent is the right provided to an inventor not for the use or practice of the invention but for preventing others from practicing or using the invention. In the recent years the role of patents has changed dramatically. Patents used to be the concern of only a bunch of legal practitioners or specialists and no one else was really bothered. But with changing times and ever increasing competition in business, patents have become a key factor for any business.

Patent analysis and information benefits many areas of business. It helps in getting the know-how of the relevant technology field in order to forecast market needs. This forms the basis of judging the right time to invest in R&D. Patent Analysis helps in getting an overview of the technologies the competitors' are working on. This is a medium to assess the competitors' strengths, weaknesses and most importantly business strategy.

It also plays a major role in licensing technologies/inventions. In mergers and acquisitions, the patent information helps in narrowing down the choices of the companies and technologies to consider. Patent analysis provides a source of technological information that can be used by researches and inventors to find new solutions to technical problem.

Lastly, but not the least the main purpose or focus of this Handbook is invalidity and infringement study of patents – one of the most important of all commercial business.

This Handbook is aimed to help the Patents Law students to familiarise with the approaches of patent analysis and initiate analysis on their own particularly focusing on invalidity and infringement issues. Large sections of this Module has been carefully compiled from several important publications made by WIPO (World Intellectual Property Organisation), several regional Patent Offices and other Government documents and published articles.

Lastly, a sample *Opinions* / *Orders* have been added as Annexures for better understanding and in depth study.

CHAPTER I

LAW OF PATENTS

Patents

A patent is a document, issued, upon application, by a government office (or a regional office acting for several countries), which describes an invention and creates a legal situation in which the patented invention can normally only be exploited (manufactured, used, sold, imported) with the authorization of the owner of the patent. “*Invention*” means a solution to a specific problem in the field of technology. An invention may relate to a product or a process. The protection conferred by the patent is limited in time (generally 20 years).

In a number of countries, inventions are also protectable through registration under the name of “*utility model*” or “*short-term patent*”. The requirements are somewhat less strict than for patents, in particular in respect of inventive step, and in comparison, with patents the fees are lower, and the duration of protection is shorter, but otherwise the rights under the utility model or short-term patent are similar. Patents are frequently referred to as “*monopolies*”, but a patent does not give the right to the inventor or the owner of a patented invention to make, use or sell anything. The effects of the grant of a patent are that the patented invention may not be exploited in the country by persons other than the owner of the patent unless the owner agrees to such exploitation. Thus, while the owner is not given a statutory right to practice his invention, he is given a statutory right to prevent others from commercially exploiting his invention, which is frequently referred to as a right to exclude others from making, using or selling the invention. The right to take action against any person exploiting the patented invention in the country without his agreement constitutes the patent owner’s most important right, since it permits him to derive the material benefits to which he is entitled as a reward for his intellectual effort and work, and compensation for the expenses which his research and experimentation leading to the invention have entailed.

It should be emphasized, however, that while the State may grant patent rights, it does not automatically enforce them, and it is up to the owner of a patent to bring an action, usually under civil law, for any infringement of his patent rights. The patentee must therefore be his own “*policeman*”.

In principle, the patent owner has the exclusive right to prevent or stop others from commercially exploiting the patented invention. In other words, patent protection means that the invention cannot be commercially made, used, distributed, imported or sold by others without the patent owner's consent.

Patents are territorial rights. In general, the exclusive rights are only applicable in the country or region protection is granted for a limited period, generally 20 years from the filing date of the application.

Simply put, a patent is the right granted by the State to an inventor to exclude others from commercially exploiting the invention for a limited period, in return for the disclosure of the invention, so that others may gain the benefit of the invention. The disclosure of the invention is thus an important consideration in any patent granting procedure.

Patent law is designed to encourage inventors to disclose their new technology to the world by offering the incentive of a limited-time monopoly on the technology. This limited-time term of patent is 20 years from the earliest patent application filing date (but this term can be extended via patent term adjustment).

The parts of the patent application typically include the Background, Summary, Detailed Description and Drawings, Claims, and Abstract.

Information Contained Within a Patent

Broadly, the typical patent consists of four main parts:

- 1) Front page(s)
- 2) Drawings
- 3) Specification
- 4) A background section
- 5) A list of drawings
- 6) A detailed description
- 7) Claims

The specification may also include the following other sections, though these are generally not required:

- 1) A summary section
- 2) A cross-reference to related applications
- 3) A statement of government support

What Patent Won't tell You?

However, keep in mind that there are several important things that the patent will not tell you, such as:

- 1) Have the maintenance fees been paid?
- 2) Has the patent expired?
- 3) Who is the current owner of the patent?
- 4) Has the patent been invalidated, enforced, licensed, or sold?
- 5) Have any further applications (like continuations or divisional) been filed for this subject matter after this patent was granted?

CHAPTER II

PATENTABILITY CRITERIA

Patentability

In order to be patentable an invention must fulfill several requirements. These requirements may be broadly classified as novelty, utility (industrial application) and non-obviousness (inventive step). Furthermore, an invention may be patented only if it fits into one of the statutory classes of subject matter protected by the national law. Other legal requirements also exist, such as the necessity for providing an enabling disclosure.

Conditions of Patentability

An invention must meet several criteria if it is to be eligible for patent protection. These include, most significantly, that the invention must consist of patentable subject matter, the invention must be industrially applicable (useful), it must be new (novel), it must exhibit a sufficient “*inventive step*” (be non-obvious), and the disclosure of the invention in the patent application must meet certain standards.

Patentable Subject Matter: In order to be eligible for patent protection, an invention must fall within the scope of patentable subject matter. Patentable subject matter is established by statute and is usually defined in terms of the exceptions to patentability, the general rule being that patent protection shall be available for inventions in all fields of technology (Article 27.1 of the *TRIPS Agreement*¹).

Subject matter which may be excluded from patentability includes the following (Article 27.3 of the *TRIPS Agreement*²). Examples of fields of technology which may be excluded from the scope of patentable subject matter includes the following:

- 1) discoveries of materials or substances already existing in nature;
- 2) scientific theories or mathematical methods;
- 3) plants and animals other than microorganisms, and essentially biological processes for the
- 4) production of plants and animals, other than non-biological and microbiological processes;
- 5) schemes, rules or methods, such as those for doing business, performing purely mental
- 6) acts or playing games;
- 7) methods of treatment for humans or animals, or diagnostic methods practiced on humans
- 8) or animals (but not products for use in such methods).

¹ < https://www.wto.org/english/docs_e/legal_e/27-trips_04c_e.htm >

² < https://www.wto.org/english/docs_e/legal_e/27-trips_04c_e.htm >

The *TRIPS Agreement* (Article 27.2³) further specifies that Members may exclude from patent protection certain kinds of inventions, for instance inventions the commercial exploitation of which would contravene public order or morality.

Industrial Applicability (Utility): An invention, in order to be patentable, must be of a kind which can be applied for practical purposes not be purely theoretical. If the invention is intended to be a product or part of a product, it should be possible to make that product. And if the invention is intended to be a process or part of a process, it should be possible to carry that process out or “use” it (the general term) in practice.

“*Applicability*” and “*industrial applicability*” are expressions reflecting, respectively, the possibility of making and manufacturing in practice, and that of carrying out or using in practice. The term “*industrial*” should be considered in its broadest sense, including any kind of industry. In common language, an “*industrial*” activity means a technical activity on a certain scale, and the “*industrial*” applicability of an invention means the application (making use) of an invention by technical means on a certain scale. National and regional laws and practices concerning the industrial applicability requirement vary significantly. At one end of the spectrum, the requirement of industrial applicability is met as long as the claimed invention can be made in industry without taking into account the use of the invention. At the other end of the spectrum, the “*usefulness*” of the claimed invention is taken into account for the determination of the industrial applicability. On the other hand, some countries do not require industrial applicability, but utility.

Novelty: Novelty is a fundamental requirement in any examination as to substance and is an undisputed condition of patentability. It must be emphasized, however, that novelty is not something which can be proved or established; only its absence can be proved.

An invention is new if it is not anticipated by the prior art. “*Prior art*” is, in general, all the knowledge that existed prior to the relevant filing or priority date of a patent application, whether it existed by way of written or oral disclosure. The question of what should constitute “*prior art*” at a given time is one which has been the subject of debates.

One viewpoint is that the determination of prior art should be made against a background of what is known only in the protecting country. This would exclude knowledge from other countries, if it was not imported into the country before the making of the invention, even if that knowledge was available abroad before the date of the making of the invention.

³ < https://www.wto.org/english/docs_e/legal_e/27-trips_04c_e.htm >

Another viewpoint is based on the differentiation between printed publications and other disclosures such as oral disclosures and prior use, and where such publications or disclosures occurred.

The disclosure of an invention so that it becomes part of the prior art may take place in three ways, namely:

- 1) by a description of the invention in a published writing or publication in other form;
- 2) by a description of the invention in spoken words uttered in public, such a disclosure being called an “*oral disclosure*”;
- 3) by the use of the invention in public, or by putting the public in a position that enables any member of the public to use it, such a disclosure being a “*disclosure by use*”.

Publication in tangible form requires that there be some physical carrier for the information, a document in the broad sense of the term, and that document must have been published, that is to say, made available to the public in any manner such as by offering for sale or deposit in a public collection. Publications include issued patents or published patent applications, writings (whether they be manuscript, typescript, or printed matter), pictures including photographs, drawings or films, and recording, whether they be discs or tapes in either spoken or coded language. Today, publication on the Internet must increasingly be taken into consideration.

Oral disclosure, as the expression suggests, implies that the words or form of the disclosure are not necessarily recorded as such and includes lectures and radio broadcasts.

Disclosure by use is essentially a public, visual disclosure such as by display, sale, demonstration, unrecorded television broadcasts and actual public use.

A document will only destroy the novelty of any invention claimed if the subject matter is explicitly contained in the document. The subject matter set forth in a claim of an application under examination is thus compared element by element with the contents of each individual publication.

Lack of novelty can only be found if the publication by itself contains all the characteristics of that claim, that is, if it anticipates the subject matter of the claim. Lack of novelty may however, be implicit in the publication in the sense that, in carrying out the “*teaching*” of the publication, a person having ordinary skill in the art would inevitably arrive at a result falling within the terms of the claim. Generally speaking, lack of novelty of this kind will only be raised by the Patent Office where there is no reasonable doubt as to the practical effect of the prior “*teaching*”.

It should be noted that in considering novelty, it is not permissible to combine separate items of prior art together.

Inventive Step (Non-Obviousness): In relation to the requirement of inventive step (also referred to as “*non-obviousness*”), the question as to whether or not the invention “*would have been obvious to a person having ordinary skill in the art*” is perhaps the most difficult of the standards to determine in the examination as to substance.

The inclusion of a requirement like this in patent legislation is based on the premise that protection should not be given to what is already known as part of the prior art, or to anything that the person with ordinary skill could deduce as an obvious consequence thereof.

The expression “*ordinary skill*” is intended to exclude the “*best*” expert that can be found. It is intended that the person be limited to one having the average level of skill reached in the field in the country concerned.

It should be noted that novelty and inventive step are different criteria. Novelty exists if there is any difference between the invention and the prior art. The question, “*is there inventive step?*” only arises if there is novelty. The expression “*inventive step*” conveys the idea that it is not enough that the claimed invention is new, that is, different from what exists in the state of the art, but that this difference must have two characteristics:

- 1) it must be “*inventive*”, that is, the result of a creative idea, and it must be a step, that is, it must be noticeable.

There must be a clearly identifiable difference between the state of the art and the claimed invention. This is why, in some jurisdictions, there is the concept of an “*advance*” or “*progress*” over the prior art.

- 2) it is required that this advance or progress be significant and essential to the invention.

In order to assess the nature of the differences which are relied upon as constituting an inventive step, account has to be taken of the prior art as a whole. Thus, as distinct from the assessment of novelty, the subject matter of the claim under examination is compared not with each publication or other disclosure separately, but with the combinations thereof, insofar as each such combination is obvious to the person having ordinary skill in the art. The combination may be global, whereas the claim may define a set of subject matter known separately. For the inventive step to be denied, it is necessary that not only the combination, but also the choice of the combined elements, is obvious. It is the sum of the differences that have been discovered which must be compared with the prior art and judged as to obviousness, and not each of the new elements taken individually, except where there is no technical link between them.

In most cases, it is useful to assess inventive step in relation to three aspects, namely:

- 1) the problem to be solved;
- 2) the solution to that problem; and
- 3) the advantageous effects, if any, of the invention with reference to the background art.

If the problem is known or obvious, the examination will bear on the originality of the solution claimed. If no inventive step is found in the solution, the question becomes whether or not the result is obvious or whether it is surprising either by its nature or by its extent. If a person having ordinary skill in the art would have been able to pose the problem, solve it in the manner claimed, and foresee the result, the inventive step is lacking.

Disclosure of the Invention: An additional requirement of patentability is whether or not the invention is sufficiently disclosed in the application. The application must disclose the invention in a manner sufficiently clear for the invention to be carried out by a person skilled in the art.

The description should set out at least one mode for carrying out the invention claimed. This should be done in terms of examples, where appropriate, and with reference to the drawings, if any. In some countries, the description is required to disclose the best mode for carrying out the invention known to the applicant.

CHAPTER III

PREPARING FOR A PATENT ANALYSIS

Patent Analysis Preparation

It is believed that 80% of published science and technology information contained in patents is not published anywhere else. There are literally tens of millions of published patents and patent application references available for review by the public. This overwhelming treasure trove of information can only be made useful by identifying the critical, relevant references in a given technology and then analysing those references in a manner that provides information for actionable decisionmaking.

Patent analysis by a patent expert enables to determine the strength of patent resources of the company in the market and also help in identifying the loopholes in research and development. For the individual patent holders or small entities, it finds out a way to track licensing opportunities by knowing which researchers, companies, universities, or inventors have scouted for patents in your domain of interest. By doing an analysis, the applicant will prevent himself from any kind of anticipating patent infringement suit. It can open up new innovative R&D process and product development priorities such as Identify new or prospective competitors in a business area or technology realm. It provides a clear map by observing patenting activity in some markets. It saves huge expenditure by taking any decisive action about whether to follow a patent, defensively publish the idea as a technical publication, or keep the invention a trade secret.

There are several exercise or steps which may be undertaken before initiating a patent analysis project. Whichever means is chosen, technology companies are well-advised to consider their options at an early stage. In some cases, minor product adaptations, or payment of a small licensing fee to the patent owner, may be sufficient to avoid future disputes. Systematically evaluating a company's freedom to operate prior to launching a new product is, therefore, a way of minimizing the risk of a patent infringing the patents owned by others. It will also improve a company's chances of finding business partners and attracting investors to support its business development plans.

Prior Art Search

The prior art searcher can simply go to the library and conduct research just as he would research any other topic. He can also review existing patents either on-line (via the public databases published on the Internet) or in a public patent library.

An on-line prior art search can be done as either a:

- 1) Keyword Search

Before beginning a search based on keywords start by listing those one would use to describe the invention. Think of all possible aspects of the invention and choose keywords that describe each such aspect. The quality of a keyword search will largely depend on the appropriateness of keywords selected.

- 2) Field Search

A field search might be used to refine the results of the keyword search. Once the keyword search has been conducted, use the field search to narrow the results down to the field in which the invention at hand operates.

There are several good databases where one can search and expect to obtain comprehensive prior art search results. The databases include national and international databases. The patent searcher does not necessarily have to pay to use these databases as most are free and public and many can be accessed on the Internet.

Patent infringement, rejection of a patent application, or invalidation of an existing patent are all negative outcomes that can result from incomplete prior art searches. Though these conflicts can often be resolved through negotiation, licensing, designing around, or even costly invalidation of the conflicting patent, as a best practice it is better to mitigate risk and control costs by ensuring all relevant prior art is surfaced before the final IP strategy is set. Patent search experts consider many factors when determining the scope and strategy for a prior art search. Whether one chooses to do one's own prior art searching or outsource it to an expert third-party search firm, here are three fundamental keys to ensuring a complete prior art search so ones clients won't lose sleep:

- 1) Choosing the right sources
- 2) Carefully defining the scope
- 3) Asking the right questions

Arguably, the most important part of a prior search is deciding when one should stop. However, this can be a challenging decision, especially when no relevant references are found. When the goal is to uncover something one can't be sure exists, or verify the absence of something that might exist, how do one know when to stop? At what point can one say that have checked enough sources from enough perspectives to move forward? Convergence is one goal that many search expert use to address this challenge. A good indicator of the search is complete is when one have tried the search in numerous ways - including different sets of keywords, citation searching, a competitor review, a chemical name, text, and chemical structure searching - and the hits (or lack thereof) one gets keep returning the same relevant results. If the results do not converge, and additional relevant answers continue to pop up as

one tries different approaches, then one should review the new results to see why they were not found by other methods, and enhance the original search approaches until convergence is achieved, or until it is determined that the body of references retrieved is sufficient to provide an opinion.

The common online resources that may be employed for a prior art search includes:

1) Local Patent Office¹

The local patent office will likely have a written or electronic database. Such databases are normally public, and a patent agent or inventor can use them to search issued patents in his or her country. Note that pending patent applications may not be included in the searchable database in many countries.

2) Patent Cooperation Treaty Applications

WIPO publishes new PCT applications every Thursday. The PCT database (Patentscope²) contains published PCT applications dating back to 1978. In many cases the international search report for PCT applications is also available, which may help a prior art search locate further pertinent prior art.

3) United States Patent and Trademark Office

The USPTO has a large and easy-to-use electronic database that anyone with an Internet connection can access free of charge. It covers issued US patents and published patent applications from 1790 with full text searching available for patents issued from 1976 onwards³. Note: New US patents issue on Tuesdays and typically appear in the database on the same day.

The USPTO also maintains a database of information on currently pending patent applications provided that the application has been published. The “*Patent Application Information Retrieval*” or “*PAIR*”⁴ database provides office actions, responses, related case and other file history information for patents and patent applications. A portion of PAIR is publicly available. Another portion of PAIR is only available to practitioners so that they can review the status of their cases.

The USPTO also makes assignment records available for patents and published patent applications⁵.

4) European Patent Office

¹ CGPDTM of Indian Patent Office has developed a search tool, INPASS <<https://ipindiaservices.gov.in/publicsearch/>>, which allows a full-text search to be conducted in all Indian patents as well as patent applications, thereby enabling the stakeholders to conduct an advanced search in the Indian patent database.

² <<https://patentscope.wipo.int/search/en/search.jsf>>

³ <<http://patft.uspto.gov/netahtml/PTO/search-bool.html>>

⁴ <<https://portal.uspto.gov/pair/PublicPair>>

⁵ <<https://assignment.uspto.gov/patent/index.html#/patent/search>>

One can search the European Patent Office database by going to their home page (Espacenet⁶) - this database contains patents from all over the world.

The EPO also maintains a database for pending cases much like the USPTO's PAIR system discussed above. This database, known as EPOline⁷.

5) Scientific Databases

There are different scientific and technical databases that are specific to various fields of technology. It is helpful for a patent agent to become familiar with these databases since they contain articles that discuss technological advances in the field. Since prior art encompasses more than just patents, a scan of these scientific databases is important when conducting a patentability search.

Additionally, there are several commercial database providers, who provides information to be searched from multiple sources including both patent and non-patent literature on a subscription basis. It is convenient to use such vendor provided services due to convenience of use and availability of prior art from multiple sources. Often the patent and non-patent literature data such provided are indexed for additional convenience.

There is no perfect prior art search. As one seeks to balance the investment of time and resources with the strategic importance of the outcome to the client, some risk will always remain; however, regardless of the searching budget, ensuring one is using the best available sources, setting an appropriate scope, and focusing on the best ways to ask the question will get one a good way toward avoiding surprises from missed prior art. If the topic is unfamiliar or the outcome critical, it can often be valuable to consult with both technology and IP search experts.

Patent Landscape

Patent landscape analysis, often referred to as "*patent mapping*" is a proven multistep process, employing computer software and human intelligence, to parse through, organize and extract value from this vast amount of information. In a nutshell, patent landscape analysis provides insight into the innovations that underlie technology and products. A completed patent landscape analysis project consists of a set of technical references and accompanying analytics from which important legal, business, and technology information can be extracted. This information enables large corporations, start-ups, universities, research institutions, and investors to understand and make informed decisions prior to investing time and money into new technology and product development opportunities.

⁶ <<https://worldwide.espacenet.com/>>

⁷ <<https://register.epo.org/regviewer>>

Patent landscape analysis provides an excellent platform to encourage thought leaders from different departments of an organization to communicate regarding key business issues. Patent landscape analysis enhances inter-departmental communications and stimulates a holistic and unified internal business process that permeates throughout the organization.

1. Researchers and scientists gain current awareness (understanding the “*state of the art*”) and learn important details about a given technology and potentially build, expand, improve, or modify that art.
2. Business development teams identify who are the important assignees (owners) of the relevant technology. This is useful for considering potential merger/acquisition partners, in/out licensing opportunities (“*open innovation*”), competitors, suppliers, or customers and to assess whether it makes more financial sense to develop the technology in-house.
3. Marketing, competitive intelligence, commercial strategy, and human resource teams gain early insight into what innovations competitors and their inventors have in the development pipeline and what products competitors are betting will be successful in the market. Looking at patent filing trends in conjunction with market research is useful to determine the commercial phase of the technology and whether it is in its infancy or is in a mature or declining phase.
4. Legal teams, whether in-house or outside counsel, use a patent landscape analysis to understand the relationship between competitive products and patent protection for competitors and where potential product or process innovations may be barred because of numerous patent references or broad patent claim language. If performed early in an R&D project, answering this question can save considerable time, money, and human resources. Legal experts can work with technical and business development teams to assess new R&D opportunities by finding gaps in the landscape (patentability, novelty or “*white space*” analysis), determine which patents are expiring or have not been maintained to inform an overview of how “crowded” or “open” a technology area is, and identify potential licensees or infringers.
5. Executives, high-level strategists, and investors gain insight into the opportunities and risks that exist in light of competitive R&D and product development initiatives, new “areas” for acquisition or investment, and how to develop and maintain a sustainable growth strategy.
6. Human resources and recruiters can identify and hire the leading innovators (inventors) in a technology.

The fundamental idea of patent landscape analysis, sometimes referred to as patent mapping, is to review and organize the patent activity in a technology area. Ideally, you have engaged a patent landscape team consisting of a patent analytics expert, as well as experts from R&D, marketing, competitive intelligence and legal that are familiar with the technology area to be analyzed and have time to commit to the project. Steps involved with creating a successful patent landscape analysis include:

1. Establish the purpose of the patent landscape analysis. Why is this patent mapping project being undertaken (i.e. idea generation, '*white space*' analysis, design around, competitive intelligence, patent filing strategy/patentability, risk management/validity/freedom to operate, monetization, M&A, etc.)?
2. Determine which patent search and analytic software and/or third party services that will be used to perform or assist in the project.
3. Your landscape team will agree on the boundaries of the technology area of focus. This includes a consideration of whether to include product terms, technology alternatives, multiple application areas in the search, and to agree on the goals and outcomes of the patent landscaping project.
4. Determine which countries to include in the search, how far back in time to look, whether to include abandoned patents, family members, equivalent versions of patents etc.
5. Perform preliminary searches across patents and technical literature and work with the team's technical and market experts familiar with the technology area to identify a set of relevant keywords, patent class codes and organizations working in the technical area.
6. Generate an initial training set of documents that are relevant to the technology area and review those documents to identify additional and refined technology, product and/or application areas in which to categorize the patent information.
7. Use keyword, patent class code, citation mapping and/or semantic search strategies. Identify lists of patents that are relevant to each technology, product and/or application sub-area.
8. Review and sort the patents within each relevant technology, product and/or application sub- category. This can be done through automated means (quick, yet less accurate) using keyword and international class code searching. Or manually (time consuming, yet very accurate) by reviewing Titles, Abstracts and/or Claims. Manual review offers the additional benefit of being able to add meta-data, comments and/or value rankings to each result. This will result in a more robust and valuable output.

Patent Analytics

After the information is organized into relevant categories, you must analyse the data to develop actionable conclusions. A few examples are listed below:

1. Patent filing velocity charts enable you to visualize the amount of change in activity in each technology, product, or application area over time. This is useful to understand how much growth has occurred in the area, and be predictive about when activity might start to level off. This can be particularly useful if paired with market research including related product sales data.

2. Top assignee tables provide insight into which large companies, start-ups, universities, and others are most focused in each technology, product, or application area. This is useful to identify potential partners, customers, licensees, acquisition candidates or organizations that might be using your technology evidenced by information that is disclosed in their patents (i.e. those discussing technology in their patent filings to which you own the underlying patent rights).
3. Items 1 and 2 above can be combined to visualize which players are spending money (via patent filings) in which categories more recently and which companies may have slowed investment in a technology area. This can further lead to comparing the R&D spending (via patent filing activity) in a variety of technology areas compared to other competitors R&D spending in the same and/or other technology, product, or application areas.
4. Patent claims in each technology, product, or market area can be scrutinized and mapped against other patents or products for legal analysis pertaining to validity, patentability, or freedom to operate.
5. High-level patent landscape maps or visualizations can be analysed for research, discovery and “*white space*” opportunities. These graphic visualizations can also be useful for communication and marketing tools – especially to non-patent experts and investors.

Freedom to Operate

A Freedom to Operate (“FTO”) analysis invariably begins by searching patent literature for issued or pending patents, and obtaining a legal opinion as to whether a product, process or service may be considered to infringe any patent(s) owned by others. Many private law or IP firms offer such analyses as part of their legal services to clients.

An FTO analysis based on the search of patent literature is just the first step. If the patent search reveals that one or more patents do limit a company’s freedom to operate, the company must decide how to proceed. Assuming that the blocking patent is valid, options include:

- 1) Purchasing the patent or In-licensing

Licensing involves obtaining written authorization from the patent holder to use the patented technology for specified acts, in specified markets and for a specified period of time. The convenience of such an agreement will depend largely on the terms and conditions of the proposed license. While there is a potential loss of autonomy, and while the patent holder will require payment of a lump sum and/or periodic royalties, it may be the simplest way of clearing the ground for the commercialization of a new technology or product.

- 2) Cross-licensing

This involves two or more companies exchanging licenses so as to be able to use certain patents owned by the other parties. In order to be able to cross-license, a company needs a well-protected patent portfolio that is of value to potential licensing partners.

3) Inventing around

A third option is to “*invent around*” or “*design around*” the invention. This implies steering research, or making changes to the product or process in order to avoid infringing on the patent(s) owned by others. For example, if freedom to operate is limited by a process patent, then a company may be able to develop an alternative process for arriving at a similar end result and thus be able to commercialize the invention without the need to pay a licensing fee to someone else.

4) Patent pools

This is a mechanism by which two or more companies practicing related technologies put their patents in a pool to establish a clearinghouse for patent rights. A well-known example of a patent pool is that formed by Sony, Philips and Pioneer for inventions that are essential to comply with certain DVD-Video and DVD-ROM standard specifications.

If the patent search indicates that there are no patents blocking access to market and that a new technology is likely to meet the patentability criteria, a business owner may wish to seek patent protection for the new technology to ensure a greater degree of freedom to operate, instead of keeping it as a trade secret.

There is, nonetheless, a clear limit on the extent to which a patent owner has the freedom to operate. A patent in itself does not provide the right to commercialize the protected technology, but only to prevent others from commercializing it. While the distinction may seem subtle, it is a crucial one. A third party may, for example, have an even broader patent that encompasses the subject matter of the first company’s patent.

Defensive Publishing or Technical Disclosures

There are many reasons why a company may wish to avoid patenting a given invention, such as cost, or the fact that the invention may not meet the patentability criteria. An alternative that is sometimes used by businesses is “*defensive publishing*” or technical disclosure. This stands in sharp contrast to keeping it as a trade secret.

Defensive publishing involves disclosing an invention to the public in order to ensure that no one else can patent it. This provides some degree of freedom to operate for all. The disclosure should be done in a well-recognized technical journal or other publication that is likely to be consulted by patent examiners when examining future patent applications. Some journals devoted exclusively to defensive publishing have become respected sources of technical information. Defensive

publication is not generally done for a major breakthrough in technology or for a core technological invention that is likely to be central to the strength of an enterprise.

Some large corporations (such as Xerox) rely on their own technical disclosure bulletins, which are widely disseminated to disclose inventions that are not patented. The USPTO enables applicants to request the publication of a *Statutory Invention Registration* (SIR) of a filed patent. This is effectively a technical disclosure of an invention for which a patent was applied. With an SIR, the applicant abandons the prosecution of the patent in exchange for the disclosure of the invention by the patent office.

CHAPTER IV

INVALIDATION OF PATENTS

Invalidation of Patents

Patents are granted with a presumption of validity. A patent examiner simply cannot be aware of all facts and circumstances that may constitute a ground for invalidity after grant, such as public prior use somewhere in the world. Apart from that, different examiners may come up with different pieces of prior art. Therefore, no patent is safe from being challenged and declared invalid (or partially invalid), for example due to lack of novelty. In practise the challenge does not come out of the blue. It usually is a reaction to an action taken or threatened by the patentee, such as an infringement action, or the result of a contractual dispute.

Once a patent has been granted it may not be revoked or invalidated by a competent authority (patent office, court, appeal body, etc.) either totally or in part on the ground of noncompliance with formal requirements, however, it may be revoked or invalidated on a matter of substance. The effectiveness of the mechanism depends on the authority in question and on the procedure available, for example whether invalidity can be invoked in the form of a so called counter-claim in the course of an infringement proceedings, if such a measure is allowed under the relevant law. This is one of the more difficult topics we have to deal with in the present context. Furthermore, the availability of technical judges and competent representatives (such as patent attorneys) plays a decisive role as concerns the quality of the procedure.

Why challenge a Patent?

The issue as to which mechanisms should be provided for in (international) patent laws starts with the question: Why would someone wish to invalidate or revoke a patent or patent claim, and at which point in time? First of all, someone wishes to take a preventive action. A competitor monitors the patenting activity of the patent owner, because he is developing a similar technology or wishes to develop one in the future. The competitor may already have, but at a later point in time, applied for a patent on a similar invention.

The competitor is, of course, interested in destroying the earlier patent as soon as possible. In case of a Indian patents, the first opportunity would arise in the examination proceedings (*pre-grant opposition*), in which novelty impairing facts could be submitted to the patent examiner of the competitor's application, which however for strategic reasons is often avoided. The second opportunity is the *post- grant opposition* and appeal procedure before the IPAB¹, in order to obtain a revocation of the patent. Thereafter, the patent must at present be invalidated at the appropriate High Court of India.

Counter-Claims of Invalidity

Invalidity counter-claims are an important means of challenging a patent in the course of an infringement proceedings. The main idea is to deal with infringement and validity in one and the same action. This measure is not provided for in all jurisdictions at present.

While the principle of separating infringement and invalidity proceedings may have the advantage of enhanced quality and legal certainty, effective counter-claim provisions could shorten the infringement proceedings, thus complying with the requirement of speed, provided technical judges sit on the court panels. Such proceedings may delay a court infringement action for many years. If the counterclaim is brought in a legal action to which the proprietor of the patent is not already a party, he shall be informed thereof and may be joined as a party to the action. The effect of the decision are *inter-parties* only and for which the decision has been applied for.

Grounds for Invalidity

The substantive patentability and *vice versa* invalidity criteria,¹ in most occasions is the first point to look into. To be effective, the challenging mechanisms must involve definite, objective and absolute concepts, such as lack of novelty, inventive activity, sufficiency of disclosure and other prior rights. These concepts have to be assessed by the agent of the patent system, the virtual person skilled in the art who is the yard stick for disclosure and patentability.

Depending on the situation and budget, one can invalidate a patent in different ways:

- 1) Substantive Criteria

The subject matter of the patent should be allowable by Law and not one of those which are excluded from patentability in the choice of jurisdiction

- 2) Novelty

In order to be patented, the invention must be novel. It should be new and should not have been known to the public. If a similar invention or prior art reference, such as a document or a whole

¹ IPAB (Intellectual Property Appellate Board) was constituted on September 15, 2003 by the Indian Government to hear and resolve the appeals against the decisions of the registrar under the Indian Trademarks Act, 1999 and the Geographical Indications of Goods (Registration and Protection) Act, 1999. Since April 2, 2007, IPAB has been authorized to hear and adjudicate upon the appeals from most of the decisions, orders or directions made by the Patent Controller under the Patents Act. Therefore all pending appeals of Indian High Courts under the Patents Act were transferred to IPAB. The headquarter of the IPAB is located in Chennai. IPAB also has sittings at Chennai, Delhi, Kolkata and Ahmedabad.

product whether patented or unpatented, is found, then the patent or patent application in question may be invalidated. To prove invalidity on the grounds of novelty, it is important that one goes through both the patents under scrutiny in depth.

3) Obviousness

Along with being new, to be patentable, the invention must be non-obvious. If anyone skilled in the art can predict or create the invention, such an invention is considered obvious and non-inventive, and cannot be patented. One can test this by assessing the claims and evaluating if the inventive part of the claims is obvious to a person skilled in the art.

4) Failure to Fulfil

Patented inventions must be of some use. Utility or usefulness is a mandatory requirement to patent an invention. Whether it will be commercially successful or not is not a concern. But, it should be of some value to the public. Factual evidence is required to prove the utility of an invention. And, once the patent is issued, the invention must do what it claimed to do in the application. In addition to this, if the patent explicitly specifies an outcome or a result through the invention, the invention must fulfil the promise or it can be invalidated.

5) Double Patenting

Double patenting is the granting of two patents for the same subject matter to a single applicant. In Canada, a patent is granted for a single invention. Double patenting is of two types. One, where at least one claim is identical in both the patents. And, the second is where the claims in the subsequent patent are obvious in the light of the first patent. If double patenting is found, one should evaluate the claims in each patent. If it is found identical or obvious with regards to the first application, then one can potentially invalidate the patent.

6) Sufficiency of Disclosure

When one files for a patent, one must accurately and correctly describe your invention to obtain a patent. Honest and complete disclosure is a vital requirement for patent registration. If an application or a patent lacks sufficient disclosure of its claimed invention, then one can potentially invalidate the patent.

Patent Oppositions

Many countries provide opposition mechanisms in their patent systems. Opposition systems *stricto sensu* offer third parties an opportunity to oppose the grant of a patent within a certain *period of time* provided by the applicable law.

An opponent must allege at least one of the grounds for opposition among those that are prescribed in the applicable law. Opposition procedures are closely related to the patent granting procedure. An opposition may be requested:

- 1) before the grant of a patent, after publication (pre-grant opposition); or
- 2) after the grant of a patent (post-grant opposition).

In some countries, an opposition may be filed pre-grant, within a certain time period immediately after the publication of the application for a patent and before the examination phase, in which case the procedure resembles, to a certain extent, the so-called third party observation system. It is possible to combine pre-grant and post-grant opposition systems. India, for example, provides both a pre-grant and a post-grant opposition system. One of the main objectives of the opposition system is to provide a simple, quick and inexpensive mechanism that ensures the quality and validity of granted patents by allowing an early rectification of invalid patents. In general, opposition proceedings are *inter- parties* procedures conducted before the patent office, not a court.

Pre-grant opposition often starts once the examination of a patent application has been completed by a positive result. The Office publishes its intention to grant the patent on the claimed invention contained in the application, and provides a certain time period during which an opposition can be filed. The opponent shall state the grounds for opposition and submit any evidence. If no opposition is filed during that period, the patent will be granted. If an opposition is filed, the applicant will be notified of that fact, together with the grounds for opposition and the evidence (for example, prior art documents that demonstrate lack of inventive step). The applicant will be given the opportunity to comply with the requirements under the applicable law, and to make observations, within the prescribed time limit. In accordance with the applicable law, the opponent has the possibility to respond to the observations made by the applicant. Based on the submissions by the opponent and the applicant, an examiner or any other person entrusted to decide on opposition cases under the applicable law will make a decision as to whether the patent shall be granted or not.

In some countries, the pre-grant opposition system is designed in such a way that it starts after the publication of the patent application and before substantive examination. Once the patent application is published, an opposition may be filed within a certain time period prescribed under the applicable law. The opponent shall state the grounds for opposition and submit any evidence. If no opposition is filed during that period, the substantive examination will be carried out. If an opposition is filed, the applicant will be notified, and given an opportunity to make observations and/or amend the application within the prescribed time period. The conclusion of the opposition will be notified to both the applicant and the opponent.

Post-grant opposition starts once the patent is granted. Once the fact that a patent has been granted is published, an opposition may be filed with evidence within a certain time period prescribed in the applicable law. Similar to the pre-grant opposition, the patentee will be notified about that fact, and be given the opportunity to comply with the requirements under the applicable law, and to

make observations, within the prescribed time limit. In accordance with the applicable law, the opponent has the possibility to respond to the observations made by the patentee. Based on the submissions by the opponent and the applicant, whoever is entrusted to decide on opposition cases under the applicable law will make a decision as to whether the patent shall be maintained, amended or revoked?

Since one of the objectives of the opposition system is to provide a simple mechanism to ensure the quality and validity of granted patents, procedural and substantive requirements provided by the applicable laws regarding opposition systems have certain common aspects. However, there are differences in the details. Some of these differences are the following:

- 1) The timeframe during which an opposition may be filed: the opposition period may start immediately after the publication of the patent application, after the completion of the substantive examination with a positive result and/or after the grant of the patent;
- 2) Entitlement to file an opposition: in many national laws, any party, including the applicant or the patentee, may file an opposition. However, some laws provide that any third party (*excluding the applicant or the patentee*) may file an opposition;
- 3) The threshold for opposition in many countries the opponent has to provide full evidence of the grounds. In one country, an opposition may be instituted if it is “*more likely than not*” that the patent is invalid; with respect to admissibility, in some countries the request has to be sufficiently substantiated, provide written documents and other evidence while in other countries, the criteria of admissibility are not defined in their patent laws;
- 4) The disclosure of the identity of the requester: in some countries, it is possible for the opponent, the true party in interest, not to disclose his identity, which may be in favor of continuing good business relationship between the opponent and the patent applicant or patentee;
- 5) The length of the opposition period varies from country to country. In many countries, the duration may vary from two to six months for pre-grant opposition and from six to 12 months for post-grant opposition;
- 6) The grounds for an opposition in many countries, the requirements regarding novelty, inventive step, industrial applicability, sufficiency of disclosure and addition of new matter going beyond the original disclosure are grounds for an opposition. Non-compliance with the requirements concerning the exclusions from patentable subject matter also forms part of the grounds for an opposition in many countries. Some countries accept an opposition on the grounds that an applicant/patentee is not entitled to the right to a patent, or on other grounds covering all requirements that should be fulfilled to obtain a patent. They include, for example, the fact that information regarding corresponding foreign applications was not submitted, the source or geographical origin of biological material used in the invention was not disclosed, or the essential formalities were not complied with;

- 7) Reviewing officers for the opposition may choose to be conducted by an examination division or the proceedings may be held before a special opposition board; the board may include technical and legal examiners or judges;
- 8) Inter-parties procedural requirements may include formal and procedural requirements relating to, for example, a request, notification to parties, arguments, evidence, oral hearing and final decision depends on the applicable law, most likely based on the general civil procedural law of each country;
- 9) Opposition fees in many countries, the payment of an opposition fee is required to file an opposition;
- 10) In some countries the opposition has an estoppel effect or an effect for civil proceedings to stay. In other countries both administrative and civil proceedings could be pursued independently and in parallel; and
- 11) The timeframe for an opposition can vary - in one country the final determination has to be issued within one year, extendable up to six months; in many countries, no time limits for a final administrative decision is specified.

In a larger sense, the opposition system is complemented by related mechanisms which allow third parties to intervene in the patent examination process before the grant of a patent or to challenge the grant of a patent after its grant. Those mechanisms are similar to the opposition system, but may differ in some criteria from the opposition system *stricto sensu*, which is an inter-parties, time-bound review systems. Three types of related mechanisms could be distinguished:

1) Third party Observations

Many Patent Offices provide the opportunity for third parties to submit prior art documents, such as published patent applications and patents or other publications, which they believe are relevant to the determination of patentability of the claimed invention.

2) Re-examination

A re-examination is a proceeding conducted by the patent office after the grant of a patent in which the validity of a patent is re-examined at the request of the patentee or third party, as provided by the applicable law.

In some countries, a re-examination system is provided as an alternative or complement to the opposition system. In comparison to the opposition system, in general, the re-examination is not time-bound and can be requested during the lifetime of the patent. In some countries the re-examination is conducted by a single examiner or the division of the patent office which has granted the patent in the first place, in comparison to a full opposition board in the cases of post-grant oppositions.

3) Administrative Revocation and Invalidation Mechanisms.

The administrative revocation and invalidation mechanisms provide for an *inter-parties* review of the validity of a patent which is not limited to a certain period after the grant of the patent. Even though the administrative review has quasi-judicial elements in some countries, the procedure is different from a judicial review, which is, in general, initiated by only interested parties, fully adversarial and entirely court-based. In many countries, similar to the opposition proceedings, any person, not limited to an interested party, could request an administrative review.

In general, the administrative review constitutes a forum outside a court, composed of a panel of experienced examiners and/or administrative judges, for reviewing the validity of a patent. It allows for reviewing the patent on grounds which might render a patent invalid, most importantly, non-compliance with the substantive patentability criteria. Mechanisms for administrative revocation and invalidation are conducted *inter-parties*, similar to the opposition, but they are generally not time-bound. In several countries, an administrative review may be initiated and conducted *ex officio*.

While post-grant opposition systems provide third parties to challenge patents at the administrative level, since the opposition period is limited, there could be cases where third parties recognize the needs of invalidating a patent only after the expiration of the opposition period. It is often the case where the technology surrounding a patented invention is developed and commercialized only some years after the grant of the patent, and at that point, the validity of the patent calls attention of competitors. The administrative review provides for a longer or a second window of challenging patents for anyone. In some countries, the administrative revocation and invalidation is the only *inter-parties* mechanism to challenge the validity of patents before the administrative body, such as in China, Japan, the Republic of Korea and the UK.

Among the countries that have an administrative review mechanism, the procedural and substantive requirements have some common aspects, but are different in details. Such differences may include:

- a) the possibility of *ex officio* proceedings;
- b) the onus of evidence for the person requesting the revocation;
- c) the grounds for revocation;
- d) the conduct of the review procedure;
- e) the possibility to make a revocation/invalidation request after the expiry of the life time of the patent; the standard for providing evidence; and
- f) the composition of the reviewing board.

An appeal against the final decision of the opposition body is generally possible, often to a court. It in procedures concerning the acquisition and maintenance of intellectual property rights as well as the administrative revocation and inter-parties procedures shall be subject to review by a judicial or quasi-judicial authority.

² Article 62.5 - Final administrative decisions in any of the procedures referred to under paragraph 4 shall be subject to review by a judicial or quasi-judicial authority. However, there shall be no obligation to provide an opportunity for such review of decisions in cases of unsuccessful opposition or administrative revocation, provided that the grounds for such procedures can be the subject of invalidation procedures.

CHAPTER V

PATENT INFRINGEMENT

Exclusive Right of a Patent Owner

Generally speaking, a patentee acquires the right, enforceable at law, to decide who shall and who shall not exploit his patented invention. He retains this right for the term of the patent, provided he pays any necessary renewal or maintenance fees. The patent owner's legal rights over his invention are usually limited in a number of quite different ways:

- 1) the claims which define the monopoly may be subject to amendment or invalidation by the courts in respect of defects which were not detected prior to the grant of the patent.
- 2) where the invention is an improvement or development of an earlier subsisting patent, the patent owner may need to obtain a license and pay royalties to the earlier patent owner.
- 3) the patent owner's rights are usually limited by the patent law, quite apart from the question of validity of his patent.

In most patent systems, for example, the patent owner is required to work his invention, either on his own behalf, or by licensing others to use it, if he wishes to retain his monopoly. A non-voluntary license may, for instance, be granted to third parties if it can be demonstrated that the patented invention is not worked or is insufficiently worked in the country.

- 4) a legal limitation on a patent owner's right to exploit his invention is that patented inventions may often be used by Government or by third parties authorized by Government, where the public interest so requires, on terms fixed by agreement or by the courts.

With the exception of the limitations just referred to, the grant of a patent allows its owner to exclude others from exploiting the patented invention. The right of the owner is called exclusive because it allows the exclusion of others from exploiting the invention and because the owner is the only one allowed to exploit the invention as long as others are not given an authorization, for example, by way of license to do so. This exclusive right of the patent owner has two main applications in practice, namely protection against infringement and the possibility of assigning or licensing the right, in part or in whole.

An infringement of the exclusive right of a patent owner involves the unauthorized exploitation of the patented invention by a third party. The making of the invention in particular, and its development for industrial application, usually involve considerable expense for the applicant and for the future owner of the patent for invention. The patent owner thus wishes to recover this expense through exploitation of the patented invention, in particular through the sale of products that incorporate the invention.

Enforcement of Rights: Initiative for enforcing a patent rests exclusively with the patent owner. It is he who is responsible for detecting infringements and for bringing them to the infringer's attention. In many jurisdictions there is a strict rule that the patent owner may not threaten legal action without the possibility of incurring severe countermeasures, including damages, if the threats prove to be on insufficient grounds. The main purpose of such provisions in the law is to prevent patent owners from threatening the customers of alleged infringers without pursuing the primary infringer. In practice, a polite letter pointing out the existence of the patent carries the implication that the patentee will sue if the infringement continues. Such a letter has proven to be quite effective in suppressing an infringement. If the infringer is persistent, the patent owner may consider whether he wishes to offer a license. Many incipient disputes are settled through license negotiations at an early stage, the terms of the license reflecting the bargaining strength of the parties. But if the patent owner is reluctant to license on terms acceptable to the licensee, he may have recourse to legal action by suing for infringement and seeking an injunction to restrain the infringement. The invariable legal response of an infringer who wishes to pursue the contest is to petition for invalidation of the patent.

The great majority of patent infringement disputes never reach the stage of court action but are settled through negotiation. Of those that do reach the stage at which official legal action is taken, very few go beyond the pre-trial stage, the usual outcome being settlement before any court hearing, possibly with the help of an unofficial arbitrator. Settlements of this nature can take several years, especially in complicated cases, but they do not typically involve large legal costs. Such settlements almost invariably involve a license and possibly damages as well.

An Unenforceable Patent

A patentee's bad faith acts can render an otherwise valid patent unenforceable. The following may render a patent unenforceable:

- 1) *Defrauding the PTO:* The patent applicant has an obligation to disclose to the PTO all of the information that is "material to patentability." A defendant must prove that the applicant intentionally failed in this duty, and that the omission was not cured.
- 2) *Misusing the Patent:* A patent holder may misuse a patent by extending the legal monopoly of a patent beyond what is allowed by law. If so, it may be guilty of patent misuse, which renders the patent unenforceable until the misuse is redressed. For example, a patent holder that "*ties*" the sale of a patented technology to the sale of non-patented technology may have misused its monopoly.
- 3) *Laches:* A laches defense requires a showing that a patentee delayed in bringing the lawsuit, that the delay was unreasonable and inexcusable, and that alleged infringer was materially prejudiced by the delay. When the alleged infringer is able to successfully invoke a laches

defense, the patentee is precluded from recovering damages from any infringement that occurred before the patentee filed suit. Laches is a partial defense, however; it does not bar post-filing damages nor injunctive relief.

- 4) *Equitable Estoppel*: Equitable estoppel applies where a patent holder has misled the alleged infringer into reasonably believing that that patentee no longer intends to enforce the patent against the alleged infringer, who relies on that misleading conduct to his or her detriment.
- 5) *Standards Activity*: In many instances, representatives on industry committees work together to develop standards regulating technology for that particular industry. Failure to follow the patent policies of the standards body may give rise to defenses to a claim of patent infringement.

Types of Infringement

There are several ways in which infringement of patent rights might arise. Firstly, there is the situation where a patent is deliberately infringed by a third party without any attempt to avoid the infringement. This will either be straight copying of the invention or else involve minor variations or modifications thereof. This form of infringement may occur because the third party is unscrupulous, or because he has been advised by his patent agent that the patent in question, or one or more claims thereof, is invalid.

With this form of infringement there is generally no argument as to whether or not there is infringement. If all the features of the patented invention have been copied, then there must be infringement, and the only matter to be resolved is whether the claims of the patent are valid.

The second situation which arises is where the infringement is deliberate, but some attempt has been made to avoid the appearance of infringement. It frequently happens that once an invention is disclosed either by sale of the product incorporating the invention, or in a published patent document, or in some other publication, third parties are given ideas. The publication generally outlines the problem and shows a way of solving it. Third parties then may endeavor to design an alternative to do the same thing. While third parties may be genuinely trying to design around the patent whilst still making use of the basic idea of the inventor, the result does not always clearly fall outside the scope of the claims of the patent. This is probably the most common form of infringement faced by patent owners and it gives rise to the most litigation.

The last situation that arises is the case of accidental infringement. As soon as a patent owner comes across something which embodies his idea he naturally feels that his invention is being copied. This is not necessarily so, since there may be many people working to solve a particular

problem at the same time. For example, research departments of different large organizations may all be working on a similar problem. Similarly, there may be several companies who have been asked to tender for a contract to solve a particular problem or to achieve a certain result, and in so doing may come up with similar ideas to that which may have been involved in the patented invention. Thus, although the patent owner may feel that his invention has been copied, the third party has, in fact, arrived at a similar if not identical solution via a different route.

Elements in Establishment of Infringement: To establish infringement the patent owner must prove all the following elements:

- 1) the carrying out of a prohibited act;
- 2) the prohibited act must have been done after the publication of the patent application, or
- 3) the issuance of the patent where no early publication occurs;
- 4) the prohibited act must have been done in the country where the patent has been granted;
- 5) the prohibited act must be in relation to a product or process falling within the scope of a claim of the patent.

Prohibited Acts: A prohibited act, the most important element in establishing an infringement, is one which involves the making, using, selling or importing the patented product, or the use of the patented process, or the making, using, selling or importing the product directly obtained through the patented process.

To make the product means that the product described and claimed in the patent is carried out in practice. Such making is also referred to as manufacturing especially when the product is produced on a commercial scale. The method of manufacture and the quantity in which the product is manufactured is irrelevant so far as infringement of a patented product is concerned.

There are however, three main exceptions in most laws to infringement of exclusive rights to make a patented product, namely:

- 1) where the patented product is made for the sole purpose of scientific research and experiment;
- 2) where a third party had started making the product before the date when the patent application for an invention incorporated in the product was filed; and
- 3) where the patented product is made under a non-voluntary license or under an authorization granted by the Government on public interest grounds.

In respect of patented processes, only the making of products directly obtained through the patented process is a prohibited act. “*Directly*” in this context means “*immediately*” or “*without further transformation or modification*”.

One of the difficulties in establishing infringement in respect of products directly obtained through

a patented process, is that of proving that the patented process was used to produce the product. Some laws partially solve this by providing for the reversal of the burden of proof in respect of patents for processes by introducing the following presumption: if the product resulting directly from the use of the patented process was new on the filing date or priority date of the patent application, an identical product manufactured by a third party is presumed to have been obtained by the same process. Some other laws go further and eliminate the difficulty by not limiting the resulting product to one which has to be new.

The use of a patented product does not require that the use be repetitive or continuous. The rule is that use is a prohibited act irrespective of who the user of the patented product is, and for what purpose the patented product is used. The use of the patented product is a prohibited act irrespective of whether the product actually being used was made by the patent owner, with the authorization of that owner, or without the authorization of such owner.

There are, in most laws, five exceptions to infringement of exclusive rights to use a patented product, namely:

- 1) where the use of the patented product is solely for purposes of scientific research and experiment;
- 2) where the patented product that is used is a product which was put on the market in the country by the owner of the patent for invention, or with his authorization;
- 3) where the use of the patented product occurs in vehicles in transit in the country;
- 4) where the patented product is used by third parties who have the special right to continue to make the product; and
- 5) where the patented product is used under a non-voluntary license or under an authorization granted by the Government on public interest grounds.

The sale of a patented product is a prohibited act irrespective of whether the product actually sold was made by the patent owner, or with or without his authorization. Any product that corresponds to the description of the invention and is claimed in the patent, even if made without the authorization of the owner, is a patented product.

Importing a product simply means that an article which constitutes or incorporates the patented product is brought into the country where protection has been conferred. Thus, importation is a physical act of transportation of the product across the border into the territory of the country. It is irrelevant which other country the product is imported from. Furthermore, it does not matter whether the importation takes place for purposes of use or sale, or for the purposes of distribution free of charge. It is also irrelevant whether the imported product enjoys patent protection in the country in which it was made or in the country from which it was imported.

The principles relating to the use, sale and importation of patented products, as far as the definitions of these acts are concerned, applies, *mutatis mutandis*, also to the use, sale and importation of products directly obtained through a patented process.

After Publication of the Application or Issuance of the Patent: The second element in establishing an infringement, namely that the prohibited act must have been done after the publication of the invention in either a patent application or in the granted patent, needs little comment. It would be contrary to natural justice if third parties could be charged with committing an offense when details of the invention were not available to the public to see what it is that could not be done.

In the Country where the Patent has been Granted: The third element in establishing an infringement also requires little comment. Generally speaking, patents do not extend beyond the boundaries of the country which granted the patent. The patent law of a country has no effect in any other country. However, in a small number of countries, particularly U.K. Dependent Territories, it is possible to extend the coverage of a United Kingdom patent to those countries by the owner of the U.K. patent applying, generally within a period of three years from the date of grant thereof, to register such patent in the country concerned.

Within the Scope of a Claim of the Patent: The fourth element in establishing an infringement is one which is normally the decisive point in any patent litigation. The scope of protection of the patent is determined in all countries by the claims. The meaning of the claims is ultimately interpreted by the courts. The manner in which the courts will interpret a claim in turn depends upon the domestic law and to a certain extent the rules or regulations. Therefore, what a claim means will depend upon the jurisdiction in which it is being interpreted.

The courts, particularly in common law systems, attempt to determine what structure the language of the claims defines, and whether or not the alleged infringing structure corresponds to the structure defined in the language of the claims. In attempting to answer the question as to whether a particular structure infringes a particular claim of a patent for invention, the claim should be broken down into its individual elements, and these compared with the elements of the alleged infringement to see whether they fit. If the claim can, in fact, be made to correspond to the alleged infringement without stretching the words of the claim too far, then there may indeed be infringement. If, on the other hand, the claim contains a limitation to something which is not found at all in the alleged infringement, there may be no infringement.

When comparing the individual elements of a claim against the corresponding elements of the alleged infringement, the following questions have to be answered:

- 1) Are all the elements of the claim present in the alleged infringement?
- 2) Do all the elements have the same form?
- 3) Do all the elements perform the same function?
- 4) Do the elements have the same relationship to the other elements?

If the answer to each of these questions is “yes”, then infringement is established, depending of course, on whether the claim in question is valid. An infringing product or process must include each and every element of the invention defined in a claim.

Of course, the establishment of infringement is not always clear-cut. For example, changes in form will not avoid infringement if there is no change in the result produced. Further changing the order of steps in a process will not avoid infringement if the result is the same. Moreover, the presence of additional elements in an alleged infringement does not avoid infringement if all the elements of the patent claim are also present.

One of the most difficult areas of patent claim interpretation is the determination as to whether or not there has been a substitution of equivalent elements in the alleged infringement. This is the so-called “*doctrine of equivalents*” which is well known in patent litigation practice in many countries. Briefly stated, the doctrine indicates that an infringer should not be allowed to continue his actions where he basically makes use of the patented invention while merely substituting a variant for an element of the invention which is equivalent technically and functionally to the element as contained in the patent claim, irrespective of whether the variant used by the infringer turns out to be an improvement or otherwise. Equivalence is restricted to those cases where the variant or variants used by the infringer function in substantially the same manner and produce substantially the same result as the element or elements contained in the claim or claims.

Exploitation of the Patented Invention

Selling an Invention: It is not enough to assess the product itself; the inventor should also discover whether there is an adequate market for the product covered by his invention.

For some of the more sophisticated technology, research establishments, multinational corporations and the like are showing increasing interest in taking up partially developed technology with the object of completing development and thus gaining from the research effort and securing a significant lead over competitors.

Basically, there are two methods the inventor can use to get his idea into production:

- 1) He can sell or license his product idea to a company equipped to manufacture it.
- 2) Alternatively, he can become a manufacturer himself, either establishing a factory or contracting out production to a job or machine shop if appropriate.

Compulsory Licenses: Licenses that are granted by the owner of the patent are considered “*voluntary*”, as distinguished from “*compulsory*” or “*non-voluntary*” licenses. The beneficiary of a voluntary license has the right to perform acts covered by the exclusive right under an authorization from the owner of the patent for invention. The authorization in a contract is generally called a license contract concluded between the owner of the patent for invention and the beneficiary of the license. In contrast, the beneficiary of a non-voluntary license has the right to perform acts covered by the exclusive right under an authorization given by a government authority against the will of the owner of the patent for invention.

Remedies Available to the Patent Owner

The remedies which may be available to the patent owner where infringement has been established are usually provided for in the national patent law and are generally in two forms, civil sanctions and criminal sanctions.

Broadly speaking, civil sanctions are available in all cases of infringement while criminal sanctions are available only under particular circumstances, where the infringement was committed intentionally. Civil sanctions normally available include the award of damages, the grant of an injunction, or any other remedy provided in the general law such as the seizure and destruction of the infringing products or the tools used for the manufacture of those products.

If the patent owner establishes in court that infringement has occurred, or is occurring, he is entitled to damages, which the court will assess. Damages will only be awarded against the infringer for infringements committed since the date of publication of the invention by the Patent Office in the patent application or the granted patent. The amount of damages may be calculated in at least two different ways.

- 1) to set damages at the amount of the financial loss suffered as a result of the infringement by the patent owner; or
- 2) use a method of calculation where damages would be based on an account of profits.

This does not mean that the patent owner will necessarily receive all the profits the infringer has made on the infringing articles but, nevertheless, an account of profits can be very near to the actual profits

made. Damages may also be assessed by taking into account the royalty being paid by any licensees. In this case a court may decide that damages should be no less than the royalty payments per article and, as they are damages and not royalties, it is likely that damages will be fixed at a higher figure.

Under some national laws, an infringer will not be liable to damages if he proves that at the date of infringement, he was not aware, and had no reasonable ground for supposing, that the patent existed.

A patent holder that prevails in a patent infringement case in a court is entitled to two main remedies:

1) Injunction

Preliminary Injunctions: In some circumstances, a patent holder can obtain an injunction before the trial begins - a preliminary injunction. Despite its temporary nature, a preliminary injunction may essentially determine the outcome of a case, because the defendant cannot sell the product(s) at issue until either the district court or appellate court removes the injunction, which may take months or years. In deciding whether to grant a preliminary injunction, courts weigh the following four factors:

- a) the likelihood of success on the merits (that the patent holder will likely prove infringement at trial and that its patent will likely withstand validity challenges at trial);
- b) the relative rights and hardships of the parties;
- c) the possibility of irreparable harm; and
- d) the public interest.

Obtaining a preliminary injunction is not without its costs to the patent holder; the patent holder must post a bond to cover any damage done to the defendant in the event the defendant wins later at trial.

Temporary Restraining Orders (TRO): These are emergency preliminary injunctions. Under extraordinary circumstances, a court can enjoin a defendant from allegedly infringing activities for a short period, at which point a full hearing - usually for a preliminary injunction — must be had.

Permanent Injunctions: A patent holder who prevails at trial can ask the court to prevent (“enjoin”) the defendant from further infringing upon the patent. Such post-trial injunctions are commonly granted, unless a matter of public interest (such as a medical treatment) is involved or unless the case presents serious appellate issues. An injunction is only available during the lifetime of the patent.

2) Monetary Damages

Courts have the power to award money damages to fully compensate the patent holder for any damages it has suffered as a result of the infringement. There are two forms of money damages: lost profits, and a reasonable royalty. The patent statute provides that if a patent

holder is entitled to damages, then the damages award cannot be less than a reasonable royalty.

Therefore, if a patent holder cannot prove lost profits or can show only some lost profits, it may seek damages in the amount of a reasonable royalty on the remainder of its sales.

Reasonable Royalty: A reasonable royalty is a calculation of how much the patent holder would have received from the defendant in a hypothetical license negotiation at the time of the infringement. The amount of the reasonable royalty depends upon royalties the patent holder charged its actual licensees, the going - rate of similar licenses in the industry, the importance of the patent to the infringing product or process, the defendant's anticipated profit on the infringing product and a number of other factors relating to the commercial relationship between the patent holder and the defendant.

Lost Profits: Lost profits are the profits the patent holder would have made but for the defendant's infringement of the patent. To recover lost profits, a patent holder must show:

- a) there are no acceptable non-infringing substitutes;
- b) the product is in demand during the relevant time period;
- c) the patent holder had the manufacturing and marketing capability to meet the demand for the product; and
- d) a detailed calculation of the lost profits.

Lost profits are easier to calculate in a two-player market—the patent holder and the infringer

- than when there are multiple players, because it is easier to show that had the infringer not been in the market, the patent holder would have made the infringer's profits. However, it is also possible to obtain lost profits in a multiple-player market under a "*market share*" theory, by calculating a percentage of the infringer's revenue based on the patent holder's market share. In addition, a patent holder may be able to recover for price erosion that occurred as a result of the infringer's competition.

Marking: While a defendant that was unaware of a patent prior to receiving a lawsuit may still be liable for patent infringement, its damages may be limited. In order to recover money damages, a patent holder that makes or licenses others to make a patented apparatus must have those patented articles marked with the patent number, to give notice to the public of the patent protection. If the patent holder fails to mark, damages may only be recovered for the time period after the infringer was notified of the patent infringement (e.g., by a *cease-and-desist letter* or *the complaint* itself). There is no marking requirement when only method claims are asserted. *Treble Damages and Attorneys' Fees* (especially in the US): The Court may order the infringer to pay up to three times the money damages if the patent holder can show that the defendant's conduct was "*willful*" In determining whether a party found to have infringed acted willfully, the jury is allowed to consider a number of factors, including: when infringement began relative to the patent's issuance; any deliberate copying by the defendant; any efforts by the defendant to design around the

patent; the defendant's investigation of patent and any consequent belief that the patent is invalid or not infringed; the defendant's litigation conduct; the defendant's size and financial condition; the closeness of the case; the duration of defendant's conduct; any remedial actions taken by defendant; the defendant's motivation for harm; and the extent to which the defendant attempted to conceal its conduct.

Criminal sanctions depend on the structure of the criminal law and the procedures applicable in the country. The usual forms of criminal sanction are punishment by imprisonment or by a fine, or both.

CHAPTER VI

PATENT CLAIM ANALYSIS

Patent Claim Analysis

Patent Analysis is an in-depth study of patents/publications based on the search report conducted for an invention. It is an important step carried out by the attorneys, scientists, and researchers in their quest for patent perfection, developing research and development strategy, deciding on business strategy and countering the competent companies in the market. It helps to give a clear picture of the concern IP issue.

Patent analysis is carried out in most of the cases to decide the patentability of an invention before deciding to file a patent application, infringement analysis before using any patent product or process of a third party by a company/individual and freedom to operate before launching a product in a particular country.

Each study is composed of a comprehensive report consisting of a summary and detailed analysis, done by a professional Patent Analyst, legal status of the patent or date of publication of the document in most of the cases. Each report underlines trends and directions in the technology domain of interest and includes crucial information on key technology providers. Patents are ranked by their pertinence to the concern technology or as demand by the client.

Scope of a Claim

To determine how broad or narrow a patent's claims are, one must look to the claims themselves, the patent specification (*the written narrative portion of the patent*), and the prosecution history. In determining claim scope, a high-level checklist can be utilized¹:

1) Length of the Claim

The length of the claim, i.e. the more limitations a claim possess, subject to a number of factors related to the technology area and other services, can serve as an initial check on claim scope. Because infringement can only exist where an infringer's product meets every limitation of a claim, more limitations increase the likelihood of a potential infringer's product not meeting one of the limitations.

¹<<https://scholarlycommons.law.northwestern.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1124&context=njtip>>

2) Open or Closed Transition Language

The transitional term, in particular, can either be “*open*” or “*closed*”. For example open transition terms allow for infringement to stand if a product includes the recited elements plus additional non-recited elements as well. Consequently, if a claim includes elements A and B, and an accused device includes elements A, B, and C, the accused device will infringe. In contrast, closed transition terms allow infringement to stand if an accused product includes the recited elements and no other elements. So, in the above example, the existence of the extra element, C, will render the claims non infringed with the use of closed transition language.

Open Transition Terms	Closed Transition Terms
Comprising	Consisting of
Comprised of	Consisting essentially of
Having	Composed of
Including	Formed of
Characterized by	

Therefore, the presence of a closed transition term can serve to potentially narrow claim scope.

3) Specific Ranges

Specific ranges included in the claims, i.e., heating a material to between 300 and 400 degrees, can also further limit claim scope. Endpoints in claimed ranges provide definitive bounds, and anything outside of those bounds will not infringe.

4) Multiple Infringer Issues/Necessary Reliance on Indirect Infringement Theories. An ideally written claim contemplates infringement by a single entity. If, however, a claim requires multiple parties to act in order to infringe the claim (no single party individually performs all elements, or a party sells a product and infringement only occurs when a customer uses the product in a particular way), the claim has a multiple infringer issue and places the patent owner in the realm of having to prove indirect infringement via active inducement or contributory infringement.

To prove active inducement, the patent owner must demonstrate that the “*alleged infringer’s actions induced infringing acts and that he knew or should have known his actions would induce actual infringements*”. Thus, to prove contributory infringement, the patent owner must prove that the accused infringer:

- a) knew that the material or components it manufactured would be used in an infringing manner and
- b) the materials or components otherwise have “*no substantial non- infringing uses*”.

Further, for indirect infringement to hold, direct infringement must exist. Thus, at some point some entity must meet all elements of the asserted claim.

5) Means-Plus-Function Elements

To meet a means-plus-function limitation, a device must perform the identical function recited in the claim using the identical or equivalent structure disclosed in the patent's specification. Thus, even if an accused product performs the identical function of a means-plus-function element, if it does so with sufficiently different structure than that disclosed in the patent's specification, the accused product does not meet the limitation.

6) Limiting Language within the specification

Language within the specification can also serve as a limitation on claim scope. While it is not proper to read limitations from the specification into the claim, statements that expressly or by implication state that certain subject matter resides outside of the scope of the claims will disclaim claim scope. Further, any absolute language in the specification (always, never, none, must, only, etc.) can be cause for concern when interpreting the scope of the claims.

7) Limiting Language within the Prosecution History

The patent owner cannot reclaim the disclaimed scope after the patent issues. Therefore an analysis of the prosecution history will also determine the extent of patent scope limitation, if any.

Patent Claim Chart

A patent claim chart is commonly used in patent infringement litigation and can be in tabular (for evidence of use) or graphical formats. The claim chart is basically a visualization of all of the information analysed in a patent claim.

There are many different use cases for claim charts. Simply put, a claim chart is a tabular or graphical presentation that breaks a patent claim into its constituent elements, or limitations. For each element, evidences of use or prior art are presented. The goal of a claim chart is to systematically present the mapping between each claim limitation and the evidences of use, prior art, intent, etc. Depending on the application of the claim chart, the evidences provided are usually to prove or analyse the use of the claimed invention in a product, service, or standard; the invalidity of the patent claim; or the intended meaning of each claim limitation, phrase, or word.

A claim chart is used in a variety of patent evaluation cases: patent infringement analysis or litigation, Patent invalidity analysis or litigation, Patent licensing and marketing, and Claim construction arguments. For infringement analysis & litigation, claim charts help confirm or dis-confirm that each and every limitation of the claim is present in a product, service, or standard. For invalidity analysis in litigation, claim charts help confirm or dis-confirm the novelty of a claim relative to prior art. Depending on the application, the level of detail and due diligence provided in a claim chart may vary significantly. For example, for marketing or licensing, far less due diligence is

used than in court cases.

Claim charts have been required with IP court submissions since 1983 following the famous case: *Summagraphics Corporation vs US*² to help construct clear claim arguments. The court determined that “*Partial Dismissal Order made clear this court’s intention that patent claims not delineated in plaintiff’s pretrial statement shall no longer be asserted in this case. Plaintiff’s pretrial statement failed to include claim charts relating to the Nadon patent; thus, plaintiff shall also be precluded from asserting the Nadon patent at trial*”. Set as a precedent, all litigation that occurs now includes detailed claim charts well before discovery has ended.

Although there are many different types of claim charts, three types are most prominent. An *Evidence- of-Use* (EoU)³ or Infringement Chart shows how a product or process accused of infringement contains each claim element to satisfy the ‘*all elements test*’ for infringement and is prepared by the plaintiff or patent owner. The all elements rule is a legal test used in US patent law to determine whether a patent claim lacks the novelty required to be valid and whether the combination of references relied upon shows obviousness for each claimed element.

An Invalidity Chart or Chart of References, shows invalidity of a patent due to anticipation or obviousness. It is prepared by a defendant or party accused of infringing on a patent. A Claim Construction or Claim Interpretation Chart, shows patent specification or technical literature citations with proper interpretations of the language of a claim and is prepared by both plaintiffs & defendants. The important fact to keep in mind is that, all limitations (i.e., *requirements*) of a claim in a patent claim chart needs to be addressed and shown to be used in a product or service before one can conclude that a claim is being used (or *infringed*). As such, every word and phrase in the claim chart can be very important in this analysis and would need to be addressed.

When it comes to the graphical, or slide, format, each slide focuses on one claim element (*the claim preamble is an exception and may be combined with the first element*). If a claim element is rather long or complicated, multiple slides may be dedicated to completely map it. Each limitation is highlighted

² <<https://static1.squarespace.com/static/5318618be4b035ad03368ef1/t/556c976ce4b0a02f64b5dc80/1433180012134/summagraphics-corp-v-united-states.pdf>>

³ Evidence of Use (EoU) charts are used to determine the extent a claim ‘*reads onto*’ a product, process, and/or standard. Detailed EoU charts help in licensing negotiations, pre-litigation research, and patent transaction opportunities.

in the element using a different underlining or highlighting colour. It is important to use the same colour to identify the relevant evidence found to make it as easy for the reader as possible to follow the logic.

In addition to claim chart, there is another type of chart called a specification chart (or *Spec Chart*). Specification charts, instead of looking into the patent claims, focus is on the patent specification (or *description*).

The following illustrative chart of references to show the invalidity of a hypothetical patent is based on a chart that was prepared by the USPTO and is found in its Manual of Patent Examining Procedure (MPEP), § 2213⁴.

U.S. Patent No. 9,999,999	Smith [Patent]
Claim 1. A filter comprising a housing,	Smith teaches "the filter housing
the housing having an outer wall,	having an outer wall 1,
a closed end,	a closed end 2,
an open end, and	an open end 3,
a lid	and a hinged lid 4
attachable to the open end...	that is securable to the open end 3 via clamp 5." (col. 6, lines 2-3; Figure 3). The hinged lid 4 of Smith is attachable to the outer rim of the open end 3 via clamp 5.
wherein the housing contains a filter material,	"the filter housing containing filter materials"
the filter material comprising activated carbon....	Smith teaches activated carbon as a filter material: "wherein the filter materials include any mixture of known filter materials such as clay, activated carbon, and any other known filter materials." (col. 12, lines 1-3).

There is an additional type of chart similar to a claim chart but recently come into use only in cases involving computer-implemented business methods or other methods or system for organizing human activity or conduct. An *Alice and Bob*⁵ chart is somewhat similar to the PTO's chart shown above, but its purpose is to show that the subject matter of the patent in suit is a familiar and commonplace human or business activity, such as headhunting, matchmaking, shopping in a store - this is in aid of an argument that the patent is directed to a patent-ineligible abstract idea.

⁴ < <https://www.uspto.gov/web/offices/pac/mpep/s2214.html#d0e222284> >

⁵ Alice and Bob are the names of fictional characters used for convenience and to aid comprehension. In cryptography and computer security, Alice and Bob are used extensively as participants in discussions about cryptographic protocols or systems. The names are conventional, and other than Alice and Bob often use a rhyming mnemonic to associate the name with the typical role of that person.

The first recorded use of an Alice and Bob table appears to have been in Google's briefs in *Walker Digital, LLC v. Google, Inc*⁶. The court said that the chart showed: "As the following hypothetical [case] (articulated by Google, and not meaningfully distinguished by Walker) shows, these steps can and routinely are performed by, for example, human job head hunters" This is the chart from the *Walker Digital* case:

Limitations of '270 Patent Claim 1	Routine Steps Performed when Headhunting
receiving from a first party first data including an identity of said first party	Carol receives a resume from Alice, which lists Alice's college degree, 8 years of sales experience, interests, and other information, including Alice's name
receiving from said first party at least two first-party rules for releasing said first data including a rule for releasing the identity of said first party	Alice instructs Carol to disclose her education and sales experience to companies with open sales positions but not to disclose her name unless the company is offering a salary of at least \$75,000
receiving from a second party a search request comprising at least one search criterion	Bob asks Carol to find an employee with sales experience for his company
receiving from said second party second data including an identity of said second party	Bob tells Carol that the job at his company is a sales position that pays \$100,000 in salary and that the name of his company is Bob's Software
receiving from said second party at least two second-party rules for releasing said second party data including a rule for releasing said identity of said second party	Bob instructs Carol that she can disclose information about the job opening to any applicant with sales experience and that she can provide the salary offer to any applicant with a college degree but not to disclose the name of his company unless the applicant has more than 5 years of sales experience
processing said search request to determine if said first data satisfies said search criterion	Carol checks to see if Alice has the necessary sales experience requested by Bob
if said first data satisfies said search criterion, then exchanging said first and second data, except said identities of said first and second parties, between said first and second parties in accordance with said first-party and second-party rules	Once Carol determines that Alice has the necessary sales experience for Bob, Carol provides Alice's college degree and years of sales experience to Bob, but not Alice's name, and provides information to Alice about the sales position available at Bob's company and the salary information, but not the name of Bob's company, in accordance with Alice's instructions and Bob's instructions
after said exchanging step, upon satisfying said first-party rule for releasing said identity of said first party, transmitting said identity of said first party to said second party, and after said exchanging step, upon satisfying said second-party rule for releasing said identity of said second party, transmitting said identity of said second party to said first party	After Carol provides Alice's sales experience and college degree to Bob and provides Bob's salary offer and sales position available at Bob's company to Alice, Carol gives Alice's name to Bob upon determining that Bob's company is offering at least \$75,000 in salary and tells Alice the name of Bob's company upon determining that Alice has more than 5 years of sales experience

Doctrine of Equivalents

The doctrine of equivalents is a legal method for a patent owner to file an infringement claim even though the original product is not completely identical to the infringing product. There are a variety of ways for patent holders to protect their intellectual property. One of these methods is called the "doctrine of equivalents" (DOE). The doctrine of equivalents lets a patent holder sue for infringement if the product in question isn't exactly the same as the original. This prevents someone from making minor changes to a product in order to avoid an infringement case.

⁶ < <https://cases.justia.com/federal/district-courts/delaware/dedce/1:2011cv00318/46103/311/0.pdf?ts=1411531907>>.

In these cases, the Court will examine whether the infringing product is for the same purpose or completes the same function as the original product. If the product is found to be equivalent in these ways, then the patent holder will win their claim. This doctrine was established in *Graver Tank & Mfg. Co. v. Linde Air Prods., Inc.*⁷. The decision of this case resulted in the "triple identity" test. Under this test, a product is equivalent if it meets the following criteria:

- 1) It performs the same function as the original.
- 2) It performs that function in the same way.
- 3) It achieves the same result as the original.

A later Supreme Court case - *Warner-Jenkinson v. Hilton Davis Chemical Co.*⁸ - established the "all elements" rule. This rule states that each claim element must be examined instead of the whole invention. Every element of the original invention must have an equivalent in the infringing invention for a claim to stand. The elements of the patented invention must have substantial equivalents in the new invention. This means they meet the rules of the triple identity test. If an element is missing, it will only be equivalent if there are superficial differences in the infringing device.

Equivalency should only be examined after a claim has been filed. It should not occur when an invention is patented. New technology developed after patenting may change the nature of essential elements. In the Warner-Jenkinson decision, the Court greatly narrowed what could be considered infringement. In the past, infringement was determined by the patent. After this decision, infringement cases are more restricted. Each element of an invention must be examined. No longer is an invention examined as a whole. An example of this is the *Brilliant Instruments v. GuideTech*⁹ case. In this case, a former GuideTech worker started his own company. GuideTech sued him for infringement on one of their products. The initial ruling went in the employee's favour. However, the Supreme Court decided that the DOE applied in this case and that the employee was guilty of infringement.

It's common for a patent to be issued with different claims than the ones with which it was originally filed. Patents can be rejected multiple times. Claims must be adjusted to be both narrower and to provide more descriptive details. If a patent is denied on the basis of prior art and the applicant adjusts their claims to avoid this prior art, they cannot make broader claims. They gave up the broader claim to allow the narrower claims to be approved. This means they cannot state the narrow claims are the equivalent of the broad claim.

⁷ < <https://law.onu.edu/sites/default/files/Graver%20Tank.pdf> >

⁸ < https://ocw.mit.edu/courses/sloan-school-of-management/15-628j-patents-copyrights-and-the-law-of-intellectual-property-spring-2013/readings/MIT15_628JS13_read34.pdf >

⁹ < [https://cases.justia.com/federal/appellate-courts/cafc/12-1018/12-1018-2013-02 20.pdf?ts=1411158506](https://cases.justia.com/federal/appellate-courts/cafc/12-1018/12-1018-2013-02%20.pdf?ts=1411158506) >

The history of the claims being rejected and amended is recorded in a file maintained by the Patent Office. This history will be stored in a large paper jacket that is called a "*file wrapper*"¹⁰. Because of this, the process of a claim being rejected and then being narrowed and refilled with a limiting amendment is called a "*file wrapper estoppel*"¹¹.

In an infringement case, the only part of the patent that matters is the claims. To determine infringement, each claim of the patent will be read and compared to the accused product. In most cases, infringement is clear. However, sometimes this is not the case. Sometimes, a person will incorporate differences into their invention to avoid infringement. These small differences can make infringement unclear, which is the purpose of the DOE. The reason that DOE is such an effective tool for protecting patents is that it compares inventions in fine detail. DOE examines how an invention works, not how it looks. This allows the court to see past superficial changes to see if infringement is present.

While the concept may seem simple, applying it is often very complex. For example, both parties in a DOE case will often have an expert witness. This can confuse the fact of equivalency. Also, an element that is equivalent for one function may not apply to another function. This can make it very hard for a patent owner to prove their case.

Another difficulty arises from how a patent is granted. Sometimes, a person applying for a patent may need to narrow their claims for approval. This narrowing prevents them from using broader claims in a DOE case. However, if the patent holder is a pioneer in their field, they will be able to argue much broader claims.

There is also something known as the "*reverse doctrine of equivalents*". In a reverse DOE case, the defendant's invention may have been altered so much that it completes the same function but in a completely different way. If this is a case, it would be almost impossible for the patent holder to prove infringement.

¹⁰ The patent application process, also known as the patent prosecution, is a lengthy administrative process requiring the creation and filing of a large number of documents, which are contained in a file wrapper.

¹¹ File-wrapper estoppel, also known as Prosecution history estoppel, is a term used to indicate that a person who has filed a patent application, and then makes narrowing amendments to the application to accommodate the patent law, may be precluded from invoking the doctrine of equivalents to broaden the scope of their claims to cover subject matter ceded by the amendments. Although primarily a US term, questions of whether, or the extent to which the prosecution history should be relevant for determining the extent of protection of a patent also arise outside the US.

Vitiation Rule: In the DOE, there is something known as the vitiation rule¹². This rule is a common defence against a DOE claim used when two elements are complete opposites. Vitiation prevents the DOE from being used to make a claim term meaningless. Vitiation applies when no reasonable jury could find two elements to be equivalent. In this case, the judge would make a complete or partial decision without sending it to a jury. It doesn't matter if two elements are designed differently so long as the work the same way, as in the *GuideTech* case. For vitiation to apply, elements must be so different that there is no way equivalency could be established. If a judge cannot determine equivalency, the question will be left to the jury.

Vitiation claims are seeing something of a comeback. The reason for this is that the Federal Circuit has placed the burden on patent holders. In the *Akzo Nobel Coatings, Inc. v. Dow Chemical Company*¹³ case, the court examined two methods for handling dispersion in pipes. Akzo, the patent holder, lost his initial claim and appealed. The Federal Circuit found that Akzo did not prove that his invention functioned in substantially the same way as the defendant's. This decision shows that vitiation may be a legitimate defence. If the patent holder cannot prove that his device functions in an equivalent way to the defendant's, there is no infringement.

Sample Checklist to Determine Infringement

A simple check for infringement can be the starting point by building a spread-sheet as below or similar ones as felt necessary.

Patent in Question			Present/Absent	Met by Substitution
Claim 1	Preamble	Limitations Present/Absent	X	X
	Transition Phrase	Closed/Open	X	X
	Element #1	X	P / A	Y / N
	Element #2	X	P / A	Y / N
	Element #3	X	P / A	Y / N
	Element #4	X	P / A	Y / N
Claim 2	Preamble	Limitations Present/Absent	X	X
	Transition Phrase	Closed/Open	X	X
	Element #1	X	P / A	Y / N
	Element #2	X	P / A	Y / N
	Element #3	X	P / A	Y / N
	Element #4	X	P / A	Y / N

¹² Rule against vitiation of a claim element is a principle of patent law that under the doctrine of equivalents, there can be no patent infringement if even one element of a claim or its equivalent is not present in the accused device. This rule limits the doctrine of equivalents and prevents the doctrine's application to an entire claim, rather than the claim's constituent elements. This is also known as all- limitations rule or all elements rule.

¹³ < <http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/15-1331.Opinion.1-27-2016.1.PDF>>

One may choose to increase the number of rows for additional elements of a claim and also for incorporating additional claims for review. Each of the claim elements may be compared with the accused product/process and the observations noted to give the preliminary idea on infringement.

Direct infringement can be easily concluded based the presence/absence of all claimed elements with the accused product/process (*Column 4*). For DOE one would be required to check weather claim elements missing in the accused product/process and met by some substitutions (*Column 5*).

Additionally, it is also important to study the *Limiting Language within the specification* which can define the claim scope, especially analysing all parametric ranges disclosed (if any). Further, any absolute language in the specification (always, never, none, must, only, etc.) can be very useful when interpreting the scope of the claims.

Lastly, no infringement study or analysis is ever complete without considering the *Limiting Language within the Prosecution History* of the concerned patent. The patentee cannot reclaim the disclaimed scope after the patent issues. Therefore an analysis of the prosecution history will also determine the extent of patent scope limitation (if any).

**SUMMAGRAPHS CORPORATION,
Plaintiff,**

v.

**The UNITED STATES, Defendant,
and**

**Altek Corporation, Intergraph Corpora-
tion, Third-Party Defendants.**

No. 153-S0C.

United States Claims Court.

May 2, 1983.

**Claim for compensation for alleged
un-authorized taking by the United States
of**

**specifically makes no comment as to the merits
of the plaintiffs contentions.**

property rights in plaintiff's patent was partially dismissed with prejudice and claims regarding digitizers manufactured and sold by entities other than third-party defendants were denied without prejudice, 1 Cl.Ct. 381, and the United States sought reconsideration of that dismissal. The Claims Court, Seto, J., held that it was inappropriate to preclude patentee from seeking compensation for procurement by the United States of infringing digitizers which had only recently been identified, despite three-year pendency of suit and two and one-half years of discovery, and thus dismissal of those claims would be without prejudice, but claims with respect to certain additional government digitizers of which patentee was aware prior to July 1, 1982, would be dismissed with prejudice pursuant to memorandum and order of preliminary conference.

Ordered accordingly.

1. Federal Courts ca=-1119

In certain circumstances, a claim which was previously denied without prejudice may be reasserted in the same case, while a claim dismissed without prejudice may be reasserted only in a subsequent suit.

2. Federal Courts CS=-1119

It was inappropriate to preclude patentee from seeking compensation for procurement by the United States of infringing digitizers which had only recently been identified, despite three-year pendency of suit and two and one-half years of discovery, and thus dismissal of those claims would be without prejudice, but claims with respect to certain additional government digitizers of which patentee was aware prior to July 1, 1982, would be dismissed with prejudice pursuant to memorandum and order of preliminary conference.

1. 1 Cl.Ct.381.

2. Defendant has conceded that plaintiff has only recently been apprised of digitizers procured pursuant to government contracts F44650-82-D0004 with the GTCO Corporation, and N00123-81-D0456 with the Computervision Corporation.

—Daniel M. Rossner, New York City, for plaintiff.

Claud A. Daigle, Jr., Washington, D.C., for defendant. Asst. Atty. Gen. J. Paul McGrath, Washington, D.C., of counsel.

RECONSIDERATION OF PARTIAL DISMISSAL

SETO, Judge:

This court, on January 27, 1983, issued a Partial Dismissal with Prejudice¹ in which plaintiff's claim for compensation for defendant's alleged unauthorized taking of property rights in plaintiff's United States Patent No. 3,700,809, entitled, "Inductively Coupled Grid Cursor," issued to Donald J. Nadon (hereafter referred to as the Nadon patent), was partially dismissed with prejudice. Moreover, plaintiff's claims regarding digitizers manufactured and sold by entities other than third-party defendants, Altek Corporation and Intergraph Corporation, were denied without prejudice. Defendant now seeks reconsideration of that dismissal.

Defendant's Motion for Reconsideration was filed on February 4, 1983; plaintiff filed an Opposition thereto on March 1, and defendant's Reply was filed on March 16. Defendant asserts two separate issues for reconsideration. The first, that the court misspoke in merely *denying* without prejudice, rather than *dismissing* without prejudice, plaintiff's claims regarding digitizers manufactured and sold by other than the third-party defendants. The second, that substantially all of these claims² should have been dismissed *with prejudice*.

As to whether the claims³ involving manufacturers or suppliers other than third-party defendants were to be *dismissed* without prejudice, rather than *denied* without prejudice, this court's intention was easily discerned by reading the entire dismissal or-

sion Corporation. Accordingly, defendant concedes that digitizers procured under either of those two contracts should not have been dismissed for plaintiff's failure to prosecute.

3. *Id.*

der. The January 27, Partial Dismissal Order made clear this court's intention that claims not delineated in plaintiff's pretrial statement shall no longer be asserted *in this case*. "Plaintiff's pretrial statement failed to include claim charts relating to the Nadon patent; thus, plaintiff shall also be precluded from asserting the Nadon patent at trial." *Summagraphics Corp. v. United States*, 1 Cl.Ct. 383 (1983).

[1] However, in certain circumstances a claim which was previously *denied* without prejudice may be reasserted in the same case. In contrast, a claim *dismissed* without prejudice may be reasserted only in a subsequent suit. Thus, to absolve any ambiguity as to the status of plaintiff's pending claims, the January 27, 1983, order shall be amended, such that plaintiff's claims for compensation infringing digitizers manufactured and sold by those other than third-party defendants are *DISMISSED WITHOUT PREJUDICE*. See lines 6 and 7, page 8 of the Partial Dismissal Order, reproduced in the appendix.

As to whether substantially all of plaintiff's claims' regarding digitizers manufactured and sold by other than third-party defendants should be dismissed with *prejudice*, this court addressed that issue in its Partial Dismissal. Defendant's arguments for reconsideration are unpersuasive.

Prior to rendering that partial dismissal, this court carefully evaluated the discovery conducted by plaintiff and the procedural posture of this case. Recognizing that plaintiff had filed its pretrial statement on December 12, 1982, thus signifying that it was prepared for trial, and in view of the three-year pendency of this case, this court concluded that plaintiff's discovery endeavors should no longer delay trial.

[2] However, plaintiff's recently revitalized discovery prosecution was encouraging. Moreover, due to the numerous government agencies which may have procured infringing digitizers, plaintiff's discovery burden was enormous. Thus, it was inappropriate

to entirely preclude plaintiff from seeking compensation for the defendant's procurement of infringing digitizers which have only recently been identified. Rather, this court chose simply to bar plaintiff from prosecuting claims involving manufacturers or suppliers other than third-party defendants. Plaintiff may reassert its claims regarding these other digitizers in a subsequent suit.

Plaintiff has advised this court of certain additional government digitizers of which it was aware of prior to July 1, 1982. Pursuant to the Memorandum and Order of Preliminary Conference filed May 28, 1982, plaintiff's claims with respect to those digitizers are **DISMISSED WITH PREJUDICE**. More specifically, these digitizers, which are manufactured by Talas System, Inc., are Model Nos. BL-660, SRP-648, SRP--614B, SRP-614, and 640-B.

IT IS SO ORDERED.

United States Court of Appeals for the Federal Circuit

BRILLIANT INSTRUMENTS, INC.,
Plaintiff-Appellee,

v.

GUIDETECH, LLC,
Defendant-Appellant.

2012-1018

Appeal from the United States District Court for the Northern District of California in No. 09-CV-5517, Judge Claudia Wilken.

Decided: February 20, 2013

THOMAS W. LATHRAM, Silicon Edge Law Group LLP, of Pleasanton, California argued for plaintiff-appellee. With him on the brief were MARK P. GUIDOTTI and ARTHUR J. BEHEIL. Of counsel on the brief were MARK S. DAVIES and ROSS C. PAOLINO, Orrick Herrington & Sutcliffe, LLP, of Washington, DC.

EINAV COHEN, Attorney at Law, Sunnyvale, California, argued for defendant-appellant. Of counsel was JEFFREY W. GLUCK, Connolly Bove Lodge & Hutz LLP, of Washington, DC.

Before DYK, MOORE, and REYNA, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* MOORE.
Opinion concurring-in-part and dissenting-in-part filed by
Circuit Judge DYK.

MOORE, *Circuit Judge*.

GuideTech, LLC (GuideTech) appeals from the district court's grant of summary judgment that Brilliant Instruments, Inc. (Brilliant) did not infringe three related GuideTech patents: U.S. Patent Nos. 6,226,231 ('231 patent), 6,091,671 ('671 patent), and 6,181,649 ('649 patent). *See Brilliant Instruments, Inc. v. GuideTech, Inc.*, No. C. 09-5517 SW, 2011 WL 3515904 (N.D. Cal. Aug. 11, 2011) (*Summary Judgment Order*). Because the court erred in granting summary judgment, we *reverse* and *remand*.

BACKGROUND

This appeal arises from a declaratory judgment action that Brilliant filed after the inventor of the patents-in-suit left GuideTech to found Brilliant. GuideTech's patents generally relate to circuits that measure the timing errors of digital signals in high-speed microprocessors. These circuits, which are referred to as time interval analyzers, detect timing errors by analyzing a digital circuit's clock signal and output signals.

The patents share a common specification and claim different aspects of the time interval measuring circuit. The '231 patent claims the circuit at a high level, reciting that the circuit comprises a "signal channel," a "plurality of measurement circuits defined within said signal channel," and a "processor circuit." Claim 1 is representative of the claims at issue:

A time interval analyzer for measuring time intervals between signal events, said analyzer comprising:

a signal channel that receives an input signal;

a plurality of measurement circuits defined within said signal channel in parallel with each other, . . . ; and

a processor circuit in communication with said signal channel

'231 patent claim 1 (emphasis added). The issue on appeal with regard to the '231 patent is whether Brilliant's time interval analyzers have "a plurality of measurement circuits defined within said signal channel." For purposes of this appeal, the parties agree that Brilliant's accused BI200 and BI220 products operate identically. Both products employ a "One-Channel-Two-Edge" mode in which they operate using "a single channel" and use two measurement circuits. J.A. 776.

The '671 and '649 patent claims are directed to internal circuitry of a measurement circuit. Claim 1 of the '671 patent is representative:

A time interval analyzer for measuring time intervals between events in an input signal, said analyzer comprising:

. . . a first current circuit having a constant current source or a constant current sink . . . ;

a second current circuit . . . ;

a capacitor; [and] a shunt,

wherein said shunt and said capacitor are operatively disposed in parallel with respect to said first current circuit,

wherein said shunt is disposed between said first current circuit and said second current circuit

'671 patent claim 1 (emphasis added). The issue on appeal regarding the '671 and '649 patents is whether the measurement circuits in the BI200 and BI220 contain a capacitor “operatively disposed in parallel” with respect to a first current circuit. In its infringement allegations, GuideTech identified a capacitor that is part of the alleged “first current circuit.”

The district court construed the disputed claim terms and entered summary judgment of noninfringement in favor of Brilliant for all three patents. GuideTech appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

I. STANDARD OF REVIEW

We review summary judgment decisions under regional circuit law. *Lexion Med., LLC v. Northgate Techs., Inc.*, 641 F.3d 1352, 1358 (Fed. Cir. 2011). The Ninth Circuit reviews the grant of summary judgment *de novo*. *Greater Yellowstone Coalition v. Lewis*, 628 F.3d 1143, 1148 (9th Cir. 2010). Summary judgment is appropriate if “the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a). At the summary judgment stage, we credit all of the non-movant’s evidence and draw all justifiable inferences in its favor. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986).

Infringement, either literal or under the doctrine of equivalents, is a question of fact. *Crown Packaging Tech., Inc. v. Rexam Beverage Can Co.*, 559 F.3d 1308, 1312 (Fed. Cir. 2009). “Thus, on appeal from a grant of summary judgment of noninfringement, we must determine whether, after resolving reasonable factual inferences in

favor of the patentee, the district court correctly concluded that no reasonable jury could find infringement.” *Id.* (quoting *IMS Tech., Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1429 (Fed. Cir. 2000)).

II. INFRINGEMENT OF THE ’231 PATENT

GuideTech challenges the district court’s grant of summary judgment of noninfringement of the ’231 patent. At summary judgment, the court construed the “defined within said signal channel” limitation as “contained within a signal channel.” *Summary Judgment Order*, 2011 WL 3515904, at *3–4. It further defined a “signal channel” as “an electrical circuit that includes a signal path for transmitting electrical signals.” *Id.* at *3. Neither party challenges these constructions.

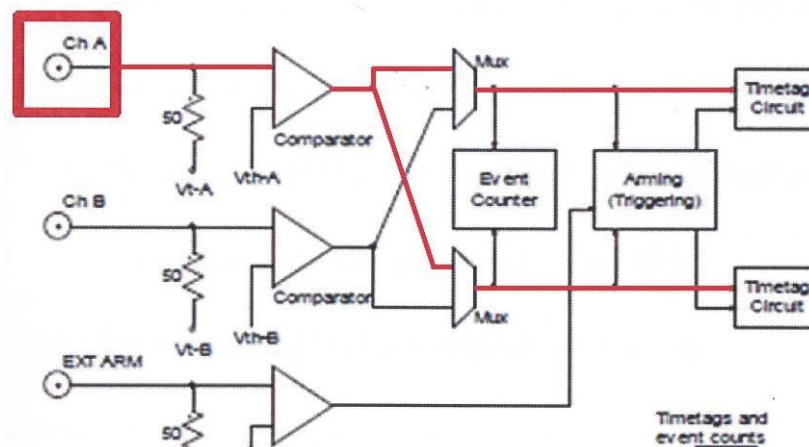
The district court concluded that GuideTech failed to present sufficient evidence that the BI200 and BI220 have multiple measurement circuits contained within a signal channel. *Id.* at *8–9. The court held that, although the accused products require the use of two measurement circuits, “it does not follow that both circuits are contained in a single channel.” *Id.* at *8. The court concluded that the testimony of GuideTech’s expert, Dr. West, failed to show that the measurement circuits were “contained” in the same channel. *Id.*

GuideTech argues that the district court erred in concluding that there was no genuine issue of material fact. GuideTech points to Dr. West’s expert report, arguing that it shows that the BI200 and BI220 employ two circuits contained within a single channel when operating in the One-Channel-Two-Edge mode. GuideTech also argues that Brilliant’s datasheets show that the accused products operate on a single channel and use two measurement circuits.

Brilliant argues that the district court properly granted summary judgment. Brilliant argues that it cannot

infringe because the district court, as a matter of claim construction, rejected GuideTech's argument that "defined within" allowed a measurement circuit to be present in more than one channel. Brilliant argues that the BI200 and BI220 do not infringe because each signal channel contains only one measurement circuit and simply borrows a second measurement circuit during One-Channel-Two-Edge mode.

We agree with GuideTech that the district court erred when it granted summary judgment. A genuine issue of material fact exists as to whether the BI200 and BI220, when operating in One-Channel-Two-Edge mode, have two measurement circuits contained within a signal channel, *i.e.*, an electrical circuit that includes a signal path for transmitting electrical signals. Dr. West explained how the BI200 and BI220 meet the asserted claims when operating in One-Channel-Two-Edge mode. J.A. 968–69, 1005–06, 1062. Brilliant's schematics also show that, during operation in One-Channel-Two-Edge mode, the only active signal path flows from the input to two measurement circuits:



J.A. 1263 (color modified). In the above schematic, a user sets the circuit to One-Channel-Two Edge Mode with

Channel A as the input. The signal path during operation in this mode is highlighted in the above schematic. Once received, the signal first flows through a comparator. The signal then flows into two multiplexers. The outputs of the multiplexers are then input into two measurement circuits (the timetag circuits).

This schematic and Dr. West's testimony, viewed in GuideTech's favor, shows that the only signal channel operative during One-Channel-Two-Edge mode contains two measurement circuits. This evidence raises a genuine issue of material fact as to whether Brilliant's products literally infringe the '231 patent claims. Accordingly, the district court erred when it granted Brilliant's motion for summary judgment, and we reverse and remand for further proceedings.

III. INFRINGEMENT OF THE '671 AND '649 PATENTS

GuideTech also challenges the district court's grant of summary judgment that Brilliant's accused products do not infringe the '671 and '649 patents. The district court construed the term "operatively disposed in parallel" to mean "arranged in a manner capable of forming alternative paths of current such that current can flow across one or the other path." *Summary Judgment Order*, 2011 WL 3515904, at *5–6. The parties do not challenge that construction on appeal.

The district court concluded that Brilliant was entitled to summary judgment because Dr. West conceded that the capacitor in Brilliant's products is "part of the first current circuit." *Id.* at *9. The court concluded that Dr. West's testimony indicated "that the capacitor is not on an alternative path on which current flows from the first current circuit." *Id.* Because it was undisputed that the capacitor in the accused products was part of the first current circuit and not arranged in parallel with the first current circuit, the court concluded that the accused products do not infringe the '671 and '649 patents, either

literally or under the doctrine of equivalents. *Id.* at *9–10.

GuideTech argues that nothing in the claims precludes the capacitor from being part of the first current circuit and, at the same time, operatively disposed in parallel with the shunt. It points to Dr. West’s expert report, arguing that he opined that the measurement capacitor and the shunt are arranged to form alternate current paths during operation. Finally, GuideTech argues that Dr. West explained how the operation of the accused products was equivalent to operatively disposing the shunt and capacitor in parallel with respect to the first current circuit.

Brilliant responds that its products cannot literally infringe because it was undisputed that the accused capacitor is part of the first current circuit, not disposed in parallel with respect to it. Brilliant argues that GuideTech’s infringement theory under the doctrine of equivalents fails because it would vitiate the requirement that the claimed “first current circuit” and the “capacitor” are separate elements.

We agree with Brilliant that the district court properly granted summary judgment that Brilliant’s accused products do not literally infringe. The claims recite “said shunt and said capacitor are operatively disposed in parallel with respect to said first current circuit.” It is undisputed that in Brilliant’s accused product the capacitor is part of the first current circuit. Because, according to the undisputed facts, GuideTech cannot establish literal infringement, summary judgment of no literal infringement was appropriately granted.

We agree with GuideTech, however, that the district court erred when it granted summary judgment that Brilliant does not infringe under the doctrine of equivalents. To find infringement under the doctrine of equivalents, any differences between the claimed invention and

the accused product must be insubstantial. *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608 (1950). One way of proving infringement under the doctrine of equivalents is to show, for each claim limitation, that the accused product “performs substantially the same function in substantially the same way with substantially the same result as each claim limitation of the patented product.” *Crown Packaging Tech., Inc. v. Rexam Beverage Can Co.*, 559 F.3d 1308, 1312 (Fed. Cir. 2009). This is a question of fact. *Id.*; *Anchor Wall Sys., Inc. v. Rockwood Retaining Walls, Inc.*, 340 F.3d 1298, 1313 (Fed. Cir. 2003).

In this case, GuideTech submitted an expert report by Dr. West that detailed its doctrine of equivalents theory under the function-way-result test. J.A. 1027. Brilliant does not contest Dr. West’s recitations of the function, way, and result of the asserted claims or the accused products. Nor does Brilliant provide any contrary evidence. Instead, it argues that GuideTech’s doctrine of equivalents infringement theory vitiates the requirement that the claimed “first current circuit” and the “capacitor” are separate claim elements.

Brilliant’s vitiation argument fails. As we recently explained in *Deere & Co. v. Bush Hog, LLC*, __ F.3d __, Nos. 2011-1629, -1630, -1631, 2012 WL 6013405 (Fed. Cir. Dec. 4, 2012):

“Vitiation” is not an exception to the doctrine of equivalents, but instead a legal determination that “the evidence is such that no reasonable jury could determine two elements to be equivalent.” The proper inquiry for the court is to apply the doctrine of equivalents, asking whether an asserted equivalent represents an “insubstantial difference” from the claimed element, or “whether the substitute element matches the function, way, and result of the claimed element.” If no reasonable

jury could find equivalence, then the court must grant summary judgment of no infringement under the doctrine of equivalents.

Id. at *5 (citations omitted). The vitiation concept has its clearest application “where the accused device contain[s] the antithesis of the claimed structure.” *Planet Bingo, LLC v. Game Tech Int’l, Inc.* 472 F.3d 1338, 1345 (Fed. Cir. 2006). This makes sense; two elements likely are not insubstantially different when they are polar opposites. As we explained in *Deere*, “[c]ourts should be cautious not to shortcut this inquiry by identifying a ‘binary’ choice in which an element is either present or ‘not present.’ Stated otherwise, the vitiation test cannot be satisfied by simply noting that an element is missing from the claimed structure or process because the doctrine of equivalents, by definition, recognizes that an element is missing that must be supplied by the equivalent substitute.” *Deere*, __ F.3d at __, 2012 WL 6013405, at *5. The vitiation test cannot be satisfied merely by noting that the equivalent substitute is outside the claimed limitation’s literal scope. Rather, vitiation applies when one of skill in the art would understand that the literal and substitute limitations are not interchangeable, not insubstantially different, and when they do not perform substantially the same function in substantially the same way, to accomplish substantially the same result. In short, saying that a claim element would be vitiated is akin to saying that there is no equivalent to the claim element in the accused device based on the well-established “function-way-result” or “insubstantial differences” tests.

To succeed on a doctrine of equivalents theory, the patentee must demonstrate equivalence under one of these two tests. This will be more difficult when the accused structure has an element that is the opposite of the claimed element, especially where the specification or prosecution history highlights the differences. If the claimed and accused elements are recognized by those of

skill in the art to be opposing ways of doing something, they are likely not insubstantially different. The concept of vitiation is an acknowledgement that each element in the claim must be present in the accused device either literally or equivalently. And we have applied this concept to cases where we have recognized that two alternatives exist that are very different from each other and therefore cannot be equivalents for infringement purposes. *See, e.g., Planet Bingo*, 472 F.3d at 1345 (concluding that determining a winning combination *after* a game starts was not equivalent to determining a winning combination *before* the game starts); *Moore U.S.A., Inc. v. Std. Register Co.*, 229 F.3d 1091, 1106 (Fed. Cir. 2000) (“[I]t would defy logic to conclude that a minority—the very antithesis of a majority—could be insubstantially different from a claim limitation requiring a majority, and no reasonable juror could find otherwise.”).

Applying these concepts to the facts of this case, we conclude that summary judgment must be reversed. The element at issue is: “wherein said shunt and said capacitor are *operatively disposed in parallel* with respect to said first current circuit.” Dr. West, GuideTech’s expert, agreed that in the accused device, the measurement capacitor is a component of the first current circuit. While this disposes of literal infringement, the doctrine of equivalents inquiry is: did GuideTech create a genuine issue of material fact regarding whether Brilliant’s capacitor, located within the first current circuit, performs substantially the same function in substantially the same way to achieve substantially the same result as the claimed capacitor, which is operatively disposed in parallel to the shunt? Everyone agrees that the capacitor in the accused device is not located in exactly the same place as the claimed capacitor, but is the change in location an insubstantial difference? We conclude that, viewing all factual inferences in favor of GuideTech, it has created a

genuine issue of material fact which precludes summary judgment. Dr. West explained:

The electrical disposition of the shunt and the capacitor with respect to the first current circuit of the BI200 and BI220 is equivalent to the electrical disposition of the shunt and the capacitor with respect to the first current circuit of this claim limitation because it performs substantially the same function (allowing the shunt to control the path of current flow to or from the first current circuit) in substantially the same way (wherein an electrical path from the first current circuit can be traced to either the capacitor or the shunt) to achieve substantially the same result (providing an electrical relationship wherein, e.g., the shunt can direct current to flow from the first current circuit to the second current circuit or from the first current circuit to the capacitor).

J.A. 1027. This detailed application of the function-way-result test to the claim element and the allegedly equivalent feature of the accused product is sufficient to create a genuine issue of material fact for the jury to resolve. The main difference between the accused circuit and the claimed circuit is that the capacitor in the accused circuit aids in delivering power and is thus part of the first current circuit. There is, however, no evidence suggesting that this added advantage of the accused design alters Dr. West's function-way-result analysis. On this record, GuideTech has created a genuine issue of material fact which precludes summary judgment of noninfringement under the doctrine of equivalents.

CONCLUSION

We have considered the parties' remaining arguments and conclude that they are without merit. For the foregoing reasons, the judgment of the district court is

REVERSED AND REMANDED.

United States Court of Appeals for the Federal Circuit

BRILLIANT INSTRUMENTS, INC.,
Plaintiff-Appellee,

v.

GUIDETECH, LLC,
Defendant-Appellant.

2012-1018

Appeal from the United States District Court for the Northern District of California in case no. 09-CV-5517, Judge Claudia Wilken.

Decided: February 20, 2013

DYK, *Circuit Judge*, concurring in part and dissenting in part.

I agree with the majority with respect to the '231 patent, and with its holding that there is no literal infringement of the '671 patent and '649 patent. However, I disagree with the majority that a genuine issue of material fact remains as to infringement of the '671 and '649 patents under the doctrine of equivalents.

The only relevant claim limitation at issue with respect to the '671 and '649 patents requires that the “shunt

and . . . capacitor [be] operatively disposed in parallel with respect to [the] first current circuit.” J.A. 61 (’671 Patent col.16 ll.63-65). The district court construed the “operatively disposed in parallel” portion of this limitation to mean “arranged in a manner capable of forming alternative paths of current such that current can flow across one or the other path.” *See Brilliant Instruments, Inc. v. GuideTech, Inc.*, 2011 WL 3515904, at *5-6, 9 (N.D. Cal. Aug. 11, 2011) (“*Summary Judgment Order*”). It also implicitly recognized, however, that the remaining portion of this limitation required that this current flow be “with respect to” the first current circuit. *See id.* at *9.

There is no dispute in this case that the capacitor in the accused device was part of the first current circuit and therefore inside of that circuit. *Id.* Thus, the capacitor could not possibly be disposed in parallel “with respect to” something of which it is already a part. The district court, in rendering a judgment of noninfringement for Brilliant, therefore emphasized that “the capacitor is not on an alternative path on which current flows *from* the first current circuit.” *Id.* (emphasis added). The majority acknowledges that “in Brilliant’s accused product the capacitor is part of the first current circuit,” and holds that “GuideTech cannot establish literal infringement” of either the ’671 or the ’649 patent. Maj. Op. at 8. However, the majority rejects the district court’s conclusion that this fact “preclude[d] a finding of infringement under the doctrine of equivalents.” *Summary Judgment Order*, 2011 WL 3515904, at *9. In so doing, it relied on GuideTech’s expert report from Dr. West as raising a genuine issue of material fact. *See* J.A. 1027; Maj. Op. at 9.

I disagree. The function-way-result test for equivalents requires “*showing on a limitation by limitation basis* that the accused product performs substantially the same function in substantially the same way with substantially the same result.” *Crown Packaging Tech., Inc. v. Rexam*

Beverage Can Co., 559 F.3d 1308, 1312 (Fed. Cir. 2009) (emphasis added). Similarly, we have recently reiterated that “[r]egardless [of] how the equivalence test is articulated, ‘the doctrine of equivalents must be applied to *individual limitations of the claim, not to the invention as a whole.*’” *Mirror Worlds, LLC v. Apple Inc.*, 692 F.3d 1351, 1357 (Fed. Cir. 2012) (quoting *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997) (emphasis added)). This guidance to consider each claim limitation under the doctrine of equivalents flows from the principles of claim vitiation, which require a determination of whether there is a substantial difference or a difference in kind between each individual claim limitation and the accused product. *See Trading Techs. Int’l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1355 (Fed. Cir. 2010).

While Dr. West purports to follow this guidance, in fact Dr. West’s report is inconsistent with the approach articulated in the cases. It applies the equivalent to the invention as a whole rather than to the particular claim limitation at issue. The Dr. West expert report, in reciting the function-way-result of the claimed invention, states:

[T]he electrical disposition of the shunt and the capacitor with respect to the first current circuit of the BI200 and BI220 is equivalent to the electrical disposition of the shunt and the capacitor with respect to the first current circuit of this claim limitation because it performs substantially the *same function (allowing the shunt to control the path of current flowing to or from the first current circuit)* in substantially the *same way (wherein an electrical path from the first current circuit can be traced to either the capacitor or the shunt)* to achieve substantially the *same result (providing an electrical relationship wherein, e.g., the shunt can direct current to flow from the first current cir-*

cuit to the second current circuit or from the first current circuit to the capacitor).

J.A. 1027 (emphasis added). As the majority properly asks, “[e]veryone agrees that the capacitor in the accused device is not located [such that it is operatively disposed in parallel with respect to the first current circuit], but is the change in location an insubstantial difference?” Maj. Op. at 11. Dr. West’s report fails to even address this question.

The “same result” Dr. West contends is achieved by the accused device is a result where “the shunt can direct current to flow from the first current circuit to the second current circuit or *from the first current circuit to the capacitor.*” J.A. 1027 (emphasis added). But this “same result” cannot occur in the accused device, as it is undisputed that, because the capacitor is inside the first current circuit, current cannot flow *from* the first current circuit to the capacitor. An appropriate doctrine of equivalents analysis would have identified an identical result that was achieved in both the claimed invention and the accused invention, thereby demonstrating that the difference between the two was insubstantial. But there is no evidence in the record—from Dr. West or elsewhere—explaining why the difference between the claimed invention and the accused device (i.e., that the capacitor in the accused device is located inside, as opposed to outside, the first current circuit) is insubstantial or how the function-way-result test is satisfied as to this limitation.

Once Brilliant brought forth expert evidence that its devices were outside the scope of the claim limitations under a doctrine of equivalents analysis, the burden fell on “the nonmoving party [in this case, Guidetech] to set forth specific facts showing that there is a genuine dispute for trial.” *Minkin v. Gibbons, P.C.*, 680 F.3d 1341, 1349 (Fed. Cir. 2012); *Shum v. Intel Corp.*, 633 F.3d 1067, 1076 (Fed. Cir. 2010). This Guidetech did not do. Indeed, given

that no evidence exists showing that Brilliant's accused products met the "with respect to" portion of the relevant limitation under the doctrine of equivalents, Brilliant merely needed to point out, as it did, "that there is an absence of evidence to support [Guidetech's infringement] case." *Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986).

Accordingly, I respectfully dissent as to this aspect of the majority's opinion, and I would affirm the district court's judgment of noninfringement as to the '671 and '649 patents under the doctrine of equivalents.

United States Court of Appeals for the Federal Circuit

AKZO NOBEL COATINGS, INC.,
Plaintiff-Appellant

v.

DOW CHEMICAL COMPANY,
Defendant-Cross-Appellant

2015-1331, 2015-1389

Appeals from the United States District Court for the District of Delaware in No. 1:12-cv-01264-LPS, Chief Judge Leonard P. Stark.

Decided: January 29, 2016

ELIZABETH GARDNER, Kenyon & Kenyon LLP, New York, NY, argued for appellant. Also represented by MICHAEL D. LOUGHNANE, RICHARD DELUCIA, MERRI C. MOKEN.

AARON A. BARLOW, Jenner & Block LLP, Chicago, IL, argued for cross-appellant. Also represented by PAUL DAVID MARGOLIS, HARRY J. ROPER; JOSHUA SEGAL, Washington, DC.

Before LOURIE, REYNA, and CHEN, *Circuit Judges*.

LOURIE, *Circuit Judge*.

Akzo Nobel Coatings, Inc. (“Akzo”) appeals from the decision of the United States District Court for the District of Delaware granting summary judgment that Dow Chemical Company (“Dow”) did not infringe the claims of U.S. Patent 6,767,956 (“the ’956 patent”), either literally or under the doctrine of equivalents. *Akzo Nobel Coatings, Inc. v. Dow Chem. Co.*, No. 1:12-cv-01364 (D. Del. Jan. 26, 2015) (“*Decision*”). Dow cross-appeals from the court’s conclusion that the claims of the ’956 patent are not indefinite. *Id.* at 10–14. For the reasons that follow, we affirm both appeals.

BACKGROUND

Akzo owns by assignment the ’956 patent, directed to an extrusion process that generates low viscosity aqueous polymer dispersions. ’956 patent, at [57]. In order to achieve uniform distribution of the polymer in the aqueous medium, the specification notes that “the mixture cannot be heated above the boiling point of the carrier liquid, or else the liquid boils and it becomes impossible to disperse the polymer.” *Id.* col. 1 ll. 57–59. The claimed invention aims to prevent such boiling, and thus achieve uniform polymer distribution, by maintaining the pressure in the extruder above atmospheric. *Id.* col. 2 ll. 26–33. Specifically, “[t]he pressure in the extruder [is] maintained by . . . connecting the outlet of the extruder to a pressurized collection vessel.” *Id.* col. 2 l. 64–col. 3 l. 1.

Claim 1 is representative and reads as follows:

1. A process for producing a dispersion of a polymer in an aqueous medium in which the polymer is dispersed in an aqueous medium in an extruder at a temperature above 100° C. in an extruder having an outlet

wherein the pressure in the extruder is maintained above atmospheric so that the aqueous medium does not boil characterized by maintaining the pressure above atmospheric for the extruder at the outlet with a *pressurized collection vessel* and

wherein aqueous dispersion from the extruder has at least 25% by weight of the aqueous medium where the aqueous medium has less than 40% by weight of organic solvent and

wherein the aqueous dispersion enters the outlet and *pressurized collection vessel* at a pressure above atmospheric so that the aqueous medium does not boil and is subjected to the action of a cooling zone to lower the temperature of the aqueous dispersion to below 100° C. to have *an aqueous dispersion with a viscosity below 10 Pa.s.*

Id. col. 7 l. 9–col. 8 l. 4 (emphases added). Claim 2 further requires: “[a] process according to claim 1 which is *carried out at a temperature of from about 5 to 150° C. above the melting point of the polymer.*” *Id.* col. 8 ll. 5–7 (emphasis added).¹

Dow’s accused process, called BLUEWAVE™, uses an extruder to generate low viscosity polymer dispersions. In Dow’s process, the dispersion exits the extruder, passes through a valve located at the extruder’s outlet, and then travels through a series of pipes and heat exchangers.

¹ Claims 1–8 all contain the disputed “pressurized collection vessel” and “viscosity below 10 Pa.s” limitations. Claims 2–6 further contain the disputed “carried out . . . of the polymer” limitation. The parties only rely on those three limitations in challenging the district court’s judgment.

Joint App. (“J.A.”) 1012, 1040–41. The dispersion then continues on through a filter and collects in a “Product Tote,” an unpressurized compartment, eventually used to transport the end-product. J.A. 1012.

In October 2012, Akzo sued Dow for patent infringement, alleging that Dow’s BLUEWAVE™ process infringed claims 1–8 of the ’956 patent. In view of what it considered to be Akzo’s failure to identify any “pressurized collection vessel” in the accused process, Dow sought leave of court to file an early summary judgment motion of noninfringement. J.A. 685–88. The district court granted the request and combined the summary judgment and *Markman* hearings. J.A. 52–53.

After the combined hearings, the district court first construed several disputed limitations. *Decision* at 6–14. It construed “pressurized collection vessel” as “tubing, piping, or other container where a desired material accumulates, which is maintained above atmospheric pressure.” *Id.* at 6–7. The court reasoned that, to properly give meaning to the word “collection,” “some amount of material must be permitted to accumulate within the vessel, rather than all of the material flowing through the vessel at a constant rate.” *Id.* at 7. It specifically relied on two examples in the specification, Examples 2 and 3, *id.*, which state: “[t]he dispersion was collected into a water-cooled pressurized vessel maintained under nitrogen at 7 bar and *from which the dispersion*, once cooled to below 100° C., *could be periodically removed*,” ’956 patent col. 6 ll. 40–44, col. 7 ll. 1–4 (emphases added).

The district court next addressed and rejected Dow’s contention that the limitation “viscosity below 10 Pa.s” rendered claims 1–8 indefinite. According to Dow, the limitation could be definite only if it incorporated a requirement that the viscosity be tested at a certain temperature; a failure to require such a temperature, Dow suggested, was fatal. The court disagreed, instead finding

that “in context one of ordinary skill in the art would know with reasonable certainty that viscosity is to be measured at room temperature.” *Id.* at 11. It accordingly construed “viscosity below 10 Pa.s” to mean “viscosity below 10 Pa.s at room temperature.” *Id.* at 10.

The court then addressed and rejected Dow’s contention that the limitation “carried out at a temperature of from 5 to 150° C. above the melting point of the polymer” rendered claims 2–6 indefinite. Specifically, Dow argued that the limitation failed to specify to which steps in the claimed process it applied, and that simply applying the limitation to every step, as the plain meaning suggests, would be irrational, for many steps require a temperature at or below 100° C. The court disagreed, however, instead finding that the specification explains that only a subset of steps in the claimed process occurs at elevated temperatures, *id.* at 14 (citing ’956 patent col. 2 ll. 38–41), and therefore “the limitation in claim 2 refers to the elevated temperature phases,” *id.* The court concluded: “Dow has provided no evidence to show that a person of ordinary skill in the art would not know with reasonable certainty the steps to which the limitation in claim 2 applies.” *Id.* It accordingly construed the limitation to mean “[t]he elevated temperature phases of claim 1 are carried out at a temperature of from 5 to 150° C above the melting point of the polymer.” *Id.* at 13.

In light of the above constructions, the district court granted Dow’s motion for summary judgment of noninfringement of claims 1–8. In describing Dow’s accused process, the court found that “Dow’s accused process uses a valve and allows the polymer dispersion to flow continuously. It does not accumulate.” *Id.* at 17. That lack of accumulation precluded a finding of literal infringement. Indeed, as the court noted: “no reasonable juror could find that Dow’s accused process uses a ‘pressurized collection [vessel]’” because “a reasonable juror could only find that the accused BLUEWAVE™ process allows for the polymer

dispersion to flow continuously.” *Id.* The lack of accumulation likewise precluded a finding of infringement under the doctrine of equivalents. As the court found, “[t]o allow Akzo to prevail on infringement by the doctrine of equivalents would vitiate the claim limitation that the ‘pressurized collection vessel’ be a ‘container where the desired material accumulates.’” *Id.* at 18.

Akzo timely appealed and Dow timely cross-appealed. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

DISCUSSION

I. Akzo’s Appeal

We review the district court’s grant of summary judgment under the law of the regional circuit, here, the Third Circuit. *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 769 F.3d 1371, 1377 (Fed. Cir. 2014). Applying the law of the Third Circuit, we review the grant of summary judgment de novo. *Nicini v. Morra*, 212 F.3d 798, 805 (3d Cir. 2000) (en banc). Summary judgment is proper when, drawing all justifiable inferences in the non-movant’s favor, “there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a); *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986).

Evaluation of summary judgment of noninfringement is a two-part inquiry: construing the claims and comparing the properly construed claims to the accused product. *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1288 (Fed. Cir. 2009). We review de novo the ultimate interpretation of a claim term and the evidence intrinsic to the patent. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 574 U.S., 135 S. Ct. 831, 841 (2015). When a district court makes factual findings about extrinsic evidence, we review those subsidiary factual findings for clear error. *Id.* at 835, 841.

Infringement, whether literal or under the doctrine of equivalents, is a question of fact. *Absolute Software, Inc.*

v. Stealth Signal, Inc., 659 F.3d 1121, 1129–30 (Fed. Cir. 2011). As such, it is amenable to summary judgment when no reasonable factfinder could find that the accused product contains every claim limitation or its equivalent. *PC Connector Sols., LLC v. SmartDisk Corp.*, 406 F.3d 1359, 1364 (Fed. Cir. 2005); *see Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29, 39 n.8 (1997).

A. Claim Construction

On appeal, Akzo first faults the district court for narrowly construing “pressurized collection vessel” to require accumulation. Akzo argues that the term should instead assume its ordinary meaning of “gather or receive.” Akzo contends that such a construction is supported by both the claim language and specification, neither of which requires the dispersion to be held for a period of time. According to Akzo, the court’s construction imports further, unspecified process limitations on how long the dispersion must be in the vessel and the manner by which the dispersion exits the vessel, among others. *See Appellant’s Br.* 34.

Dow responds that “collection,” in context, necessarily requires accumulation, as the district court held. Dow relies primarily on Examples 2 and 3 in the specification, which state: “from which the dispersion, once cooled to below 100° C., could be periodically removed.” Appellee’s Br. 28 (quoting ’956 patent col. 6 ll. 40–44, col. 7 ll. 1–4). According to Dow, “‘once cooled’ implies . . . that the material is sitting there and ‘periodically removed’ requires not immediately removed; it is removed after a period of time. Both of those assume that accumulation has occurred.” Oral Argument 14:30–14:42. Moreover, Dow contends, construing the term to broadly mean “gather or receive” renders the limitation superfluous because, under a “gather or receive” construction, any pressurized vessel is a “pressurized collection vessel.”

We agree with Dow and affirm the district court’s construction of “pressurized collection vessel” as “tubing, piping, or other container where a desired material accumulates, which is maintained above atmospheric pressure.” Our claim construction analysis begins with the language of the claim itself, as it would have been understood by one of ordinary skill in the art at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). The claims “must be read in view of the specification, of which they are a part.” *Id.* at 1315 (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). Indeed, we have said that the specification “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

As an initial matter, we agree with the district court that adopting Akzo’s proffered construction of “gather or receive” would “obviate[] the import of the word ‘collection.’” *Decision* at 7. There is no dispute that the “pressurized collection vessel” receives the dispersion; that function is clearly contemplated by the surrounding claim language. ’956 patent col. 7 ll. 19–21 (“[T]he aqueous dispersion enters the outlet and pressurized collection vessel at a pressure above atmospheric.”). But allowing “collection” to mean “receive” would render “collection” entirely superfluous and allow any pressurized vessel to constitute a “pressurized collection vessel”; such a result is disfavored. *Merck & Co. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (“A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.”); *Power Mosfet Techs., L.L.C. v. Siemens AG*, 378 F.3d 1396, 1410 (Fed. Cir. 2004) (“[I]nterpretations that render some portion of the claim language superfluous are disfavored.”). The district

court's construction of "accumulation," on the other hand, gives the term "collection" proper meaning in context.

Moreover, the remainder of the specification supports the court's construction. In addition to the limitation itself, "collection" and/or "collected" is used twice in the specification, in Examples 2 and 3. '956 patent col. 6 l. 40, col. 7 l. 1. In those examples, the dispersion is collected, allowed to cool, and then "periodically removed." *Id.* col. 6 l. 43, col. 7 l. 4. Those examples clearly contemplate a buildup or accumulation of dispersion in the collection vessel before the eventual "periodic removal." Thus, as the court noted, to give meaning to "collection" consistent with the specification, "material must be permitted to accumulate within the vessel, rather than all of the material flowing through the vessel at a constant rate." *Decision* at 7; *cf. Kinetic Concepts, Inc. v. Blue Sky Med. Grp., Inc.*, 554 F.3d 1010, 1018–19 (Fed. Cir. 2009) (construing "wounds" as "skin wounds" because "[a]ll of the examples described in the specification involve skin wounds," and construing otherwise "would thus expand the scope of the claims far beyond anything described in the specification").

B. Literal Infringement

Akzo next argues that it has raised a genuine issue of material fact as to literal infringement under the court's construction of "pressurized collection vessel."² According to Akzo, it proved "substantial facts to rebut Dow's claims regarding the function of its control valve," and provided "unrebutted evidence to support a finding that dispersion 'accumulates' in Dow's heat exchange equipment," includ-

² Because we affirm the district court's construction of "pressurized collection vessel," we need not address Akzo's arguments regarding infringement under Akzo's proffered construction.

ing inspections of Dow's BLUEWAVE™ process and the expert declaration of Dr. Eldridge M. Mount III. Appellant's Br. 46, 48 (referencing J.A. 1098 ¶ 46).

Dow responds that Akzo did not provide sufficient evidence from which a reasonable jury could find accumulation. Moreover, Dow contends, the declaration Akzo relies on fails to create a genuine issue of material fact because it is ambiguous at best about whether dispersion "accumulates" in the heat exchangers.

We agree with Dow and the district court that Akzo failed to raise a genuine issue of material fact as to literal infringement, and thus affirm the district court's grant of summary judgment of no literal infringement. All of the claims contain the "pressurized collection vessel" limitation and are thus subject to the same analysis and conclusion.

Literal infringement exists when every limitation recited in the claim is found in the accused device. *Cole v. Kimberly-Clark Corp.*, 102 F.3d 524, 532 (Fed. Cir. 1996). On appeal from a grant of summary judgment of no literal infringement, we determine, after resolving all inferences in favor of the patentee, whether the district court correctly concluded that no reasonable jury could find infringement. *Move, Inc. v. Real Estate Alliance Ltd.*, 709 F.3d 1117, 1121 (Fed. Cir. 2013).

As the movant, Dow had "the initial responsibility of identifying the legal basis of its motion, and of pointing to those portions of the record that it believes demonstrates the absence of a genuine issue of material fact." *Novartis Corp. v. Ben Venue Labs., Inc.*, 271 F.3d 1043, 1046 (Fed. Cir. 2001). Dow satisfied this burden by identifying that its accused process lacks a "pressurized collection vessel," as construed, and by pointing to record evidence suggesting that, in its process, "the material continuously passed through the heat exchangers." J.A. 914 ("Dow's dispersion is only collected at the very end of the Dow process in

a large open-to-the-atmosphere plastic crate or an even larger, open-to-the-atmosphere storage tank, neither of which is pressurized.”). Accordingly, “the burden shift[ed] to [Akzo] to designate specific facts showing that there is a genuine issue for trial.” *Novartis*, 271 F.3d at 1046. The court correctly determined that Akzo failed to meet that burden.

For its part, Akzo had to present evidence that the dispersion accumulates in Dow’s downstream heat exchangers and pipes. Akzo primarily relied on the declaration of its expert, Dr. Mount, which stated that the piping “represents a defined volume of space in which the dispersion collects and is resident for a period of time such that a backpressure is created” on the extruder. J.A. 1098 ¶ 46. According to Akzo, that “unrebutted” statement established a genuine issue of material fact as to whether Dow’s pipes and heat exchangers “accumulate” dispersion, as required by the claims.

We disagree. Dr. Mount’s statement is ambiguous at best as to whether accumulation occurs in Dow’s accused process. It does not recite “accumulation,” nor does it expressly refute Dow’s contention that dispersion flows continuously throughout its process and does not accumulate. Akzo instead relies heavily on Dr. Mount’s language, “resident for a period of time.” Such reliance is misplaced, however, for such a phrase does not invoke the “accumulation” envisioned by the claims, and certainly, as Dow notes, “liquid passing through pipes is always ‘resident for a period of time.’” Appellee’s Br. 47. Ultimately, the passage states that “dispersion collects,” yet it fails to identify which construction of “collection” it relies on. Such evidence did not establish a genuine issue of material fact.

Accordingly, Akzo failed to provide sufficient evidence from which a reasonable jury could find that the dispersion in Dow’s process accumulates within a “pressurized

collection vessel.” The district court’s grant of summary judgment of no literal infringement of all the claims was therefore correct.

C. Infringement Under the Doctrine of Equivalents

Akzo lastly contends that the district court committed legal error by applying the concept of vitiation and impermissibly creating “a ‘binary choice’ in which an element is either present or ‘not present.’” Appellant’s Br. 52 (quoting *Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1356 (Fed. Cir. 2012)). Under a correct application of the doctrine of equivalents, Akzo argues, it raised a genuine issue of material fact as to whether Dow’s equipment performed the same function in substantially the same way to reach the same result.

Dow responds that the district court engaged in the proper “function-way-result” inquiry and simply concluded that Akzo failed to meet its burden of showing a genuine issue of material fact.

We agree with Dow and affirm the district court’s grant of summary judgment of no infringement under the doctrine of equivalents. Although infringement under the doctrine of equivalents is a question of fact, summary judgment is proper “[w]here the evidence is such that no reasonable jury could determine two elements to be equivalent.” *Warner-Jenkinson*, 520 U.S. at 39 n.8. A patentee must establish “equivalency on a limitation-by-limitation basis” by “particularized testimony and linking argument” as to the insubstantiality of the differences between the claimed invention and the accused device or process. *Texas Instruments Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1566 (Fed. Cir. 1996). The function-way-result test “often suffice[s] to show the substantiality of the differences.” *Id.* “[A]ll claim limitations are not entitled to an equal scope of equivalents.” *Moore USA, Inc. v. Standard Register Co.*, 229 F.3d 1091, 1106 (Fed.

Cir. 2000). Ultimately, “many limitations warrant little, if any, range of equivalents.” *Id.*

Akzo hones in on and challenges the district court’s use of “vitiate” in its equivalents analysis. We find this challenge unpersuasive. As the Supreme Court has stated, “if a theory of equivalence would entirely vitiate a particular claim element, partial or complete judgment should be rendered by the court” *Warner-Jenkinson*, 520 U.S. at 39 n.8. The dictionary defines the term “vitiate” as “to make ineffective.” See MERRIAM WEBSTER, <http://www.merriam-webster.com/dictionary/vitiate> (last visited Dec. 15, 2015). Under the doctrine of equivalents, an infringement theory thus fails if it renders a claim limitation inconsequential or ineffective. And as we have explained, “saying that a claim element would be vitiated is akin to saying that there is *no equivalent* to the claim element in the accused device based on the well-established ‘function-way-result’ or ‘insubstantial differences’ tests.” *Brilliant Instruments, Inc. v. GuideTech, LLC*, 707 F.3d 1342, 1347 (Fed. Cir. 2013) (emphasis added); cf. *Cadence Pharm. Inc. v. Exela PharmSci Inc.*, 780 F.3d 1364, 1372 (Fed. Cir. 2015) (“The determination of equivalence depends not on labels like ‘vitiation’ or ‘antithesis’ but on the proper assessment of the language of the claimed limitation and the substantiality of whatever relevant differences may exist in the accused structure.”).

With these principles in mind, we conclude that Akzo failed to establish a genuine issue of material fact as to whether Dow’s process operates in substantially the same way. In fact, the opposite is true. The claimed process operates by using a pressurized collection vessel wherein dispersion accumulates to maintain backpressure in the extruder. To state it differently, it is the accumulation of dispersion in the collection vessel that generates the backpressure. Dow’s accused process, on the other hand, “uses a valve” and does not allow for accumulation in the

downstream pipes. *Decision* at 17. Thus, in order to survive summary judgment, Akzo had to show that a valve and a series of pipes and heat exchangers, wherein the dispersion flows continuously, generate backpressure in the extruder in substantially the same way to increase the boiling point of the carrier fluid. It did not do so.

Akzo introduced Dr. Mount's declaration as support. In the last paragraph of a fifty-one paragraph declaration, Dr. Mount states:

Dow's and Michelman's piping and heat exchangers perform the same function (maintain the pressure) and achieve the same result (maintaining sufficient pressure to prevent boiling of the aqueous medium) in substantially the same way (by collecting the dispersed material in a contained volume) as the vessel used by the inventors in Examples 2 and 3 of the patent.

J.A. 1100–01. Dr. Mount's discussion of the doctrine of equivalents is broad and scant. *Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247 F.3d 1316, 1329 (Fed. Cir. 2001) ("Broad conclusory statements offered by Telemac's expert are not evidence and are not sufficient to establish a genuine issue of material fact."). Nevertheless, what truly undermines Akzo's reliance on the above-quoted statement is the statement's failure to articulate how Dow's accused process operates in substantially the same way. Dr. Mount states that Dow's process operates "in substantially the same way (by collecting the disperse material in a contained volume)," yet he fails to articulate which construction of "collecting" he invokes, much less articulate how the differences between the two processes are insubstantial. Such ambiguity and generality cannot create a genuine issue of material fact.

Accordingly, Akzo failed to provide evidence from which a reasonable jury could find that Dow's valve, pipes, and heat exchangers operate in substantially the

same way as the claimed “pressurized collection vessel” to generate backpressure in the extruder. The court’s grant of summary judgment was therefore correct.³

II. Dow’s Cross-Appeal

In its cross-appeal, Dow challenges the district court’s conclusion that the claims of the ’956 patent are not invalid for indefiniteness. Specifically, Dow contests two limitations. First, Dow argues that “viscosity below 10 Pa.s” renders claims 1–8 indefinite because it fails to recite the temperature at which the viscosity measurement is to be taken. Second, Dow argues that “carried out at a temperature of from 5 to 150° C. above the melting point of the polymer” renders claims 2–6 indefinite because it fails to specify which steps in the claimed process occur at those elevated temperatures.

Indefiniteness is a question of law that we review de novo, *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370 (Fed. Cir. 2014), subject to a determination of underlying facts. A patent claim is invalid for indefiniteness if its language, when read in light of the specification and prosecution history, “fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S., 134 S. Ct. 2120, 2124 (2014). Patents are presumed to be valid, and the challenger bears the burden of establishing invalidity. See 35 U.S.C. § 282; *Nautilus*, 134 S. Ct. at 2130 n.10.

We first address the “viscosity below 10 Pa.s” limitation. The district court’s determination that one of skill in the art would measure viscosity at room temperature in

³ As we agree with the reasoning relied on by the district court in affirming the grant of summary judgment of no infringement, we find it unnecessary to consider Dow’s alternative grounds for affirmance.

the absence of a specified temperature was based on extrinsic evidence. Because we see no clear error in that fact finding here, and it does not conflict with the intrinsic record, we affirm. See *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1342 (Fed. Cir. 2015); *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1378 (Fed. Cir. 2015).

The district court considered, *inter alia*, two pieces of extrinsic evidence: Dr. Mount’s declaration, J.A. 482–83, and the ASTM protocol, J.A. 542–49. Dr. Mount’s declaration, in part, recites: “[t]he standard practice in analytical chemistry dictates that if a temperature is not specified for a given measurement, room temperature is implied.” J.A. 482 ¶ 18. The ASTM protocol, on the other hand, relays a “test method [for] the determination of the apparent viscosity of hot melt adhesives . . . at temperatures up to 175° C.” J.A. 542. The method then requires “report[ing] the apparent viscosity at a given temperature along with the particulars” J.A. 543.

The district court did not clearly err in crediting Dr. Mount’s declaration over the ASTM protocol. The ASTM protocol does indicate that viscosity varies with temperature. But the described method only discusses “hot melt adhesives” above 175° C, which is inapposite to the claimed product that has been cooled to below 100° C, aims to find different viscosities over a range of temperatures, and fails to indicate what a skilled artisan would understand. Accordingly, the court correctly discounted the ASTM protocol to find that one of skill would understand that room temperature is implied for a viscosity measurement with no specified temperature. As the court then noted, Dow “fail[ed] to establish by clear and convincing evidence that a person skilled in the art would not know with reasonable certainty at what temperature to measure viscosity.” *Decision* at 11.

Moreover, although the district court did not expressly rely on the intrinsic record, we conclude that the intrinsic record only further supports the court's determination. Granted, neither the claim language nor the specification indicates a temperature for the final viscosity measurement. But room temperature is the only temperature mentioned at all in the '956 patent in connection with a viscosity measurement. '956 patent col. 3 l. 23. Accordingly, we affirm the court's conclusion that the expression "viscosity below 10 Pa.s" does not render claims 1–8 indefinite, as well as its construction of that limitation as "viscosity below 10 Pa.s at room temperature."

We next address the "carried out . . . of the polymer" limitation.⁴ The process recited in claim 2 is "a process according to Claim 1." *Id.* col. 8 ll. 5–8. Claim 1 recites a process "for producing a dispersion in an aqueous medium in which the polymer is dispersed in an aqueous medium in an extruder at a temperature above 100° C." *Id.* col. 7 ll. 9–11. The specification then teaches that the dispersing step necessarily takes place before the dispersion exits the extruder; it is during that dispersing step when the temperature exceeds the melting point of the polymer. Indeed, the specification describes a typical process where the polymer "is melted in the initial melt zone of the extruder at a temperature above the melting point of the polymer, preferably from 5 to 150° C, typically 10 to 130° C, above the melting point." *Id.* col. 2 ll. 36–41. Thus, as the district court found, "the specification supports a construction which indicates that the limitation in claim 2 refers to the elevated temperature phases and not to the stages that follow." *Decision* at 14.

⁴ Claims 2–6 all contain the same "carried out of the polymer" limitation and are thus subject to the same analysis.

Further, in concluding that claims 2–6 were not indefinite, the district court stated that “Dow has provided no evidence to show that a person of ordinary skill in the art would not know with reasonable certainty the steps to which the limitation in claim 2 applies.” *Decision* at 14. Absent any evidence contrary to the clear meaning of the intrinsic record, the court did not err in finding that one of skill in the art would understand which steps the elevated temperature range applied to. *See id.*

Dow suggests that, in affirming the district court’s construction, we run afoul of the principle that courts may not redraft claims to sustain their validity. Appellee’s Br. 67–68 (discussing *Chef Am., Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371 (Fed. Cir. 2004)). Dow’s reliance on *Chef America*, however, is misplaced. In affirming the district court’s construction, we are not redrafting the claims, but rather construing the claims to require the heightened temperature range to apply to the elevated temperature phases in accordance with the specification. *Eidos Display, LLC v. AU Optronics Corp.*, 779 F.3d 1360, 1367–68 (Fed. Cir. 2015) (“Determining how a person of ordinary skill in the art would understand the limitation, however, is different from rewriting the limitation.”); *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1366–67 (Fed. Cir. 2011).

Accordingly, we affirm the district court’s conclusion that “carried out . . . of the polymer” does not render claims 2–6 indefinite, as well as its construction of that limitation as “[t]he elevated temperature phases of claim 1 are carried out at a temperature of from 5 to 150° C above the melting point of the polymer.”

CONCLUSION

We have considered all remaining arguments, but find them unpersuasive. For the reasons set forth above, we affirm the judgment of the district court.

AFFIRMED

ANNEXURE - IV

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

WALKER DIGITAL, LLC,

Plaintiff-Counterdefendant,

v.

C.A. No. 11-318-LPS

GOOGLE, INC.

Defendant-Counterplaintiff.

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MEMORANDUM OPINION

September 3, 2014
Wilmington, Delaware

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STARK, U.S. District Judge:

Pending before the Court is Defendant Google, Inc.'s ("Google" or "Defendant") motion for summary judgment of invalidity of U.S. Patent No. 5,884,270 ("the '270 patent") and U.S. Patent No. 5,884,272 ("the '272 patent") for lack of patentable subject matter. (D.I. 250) The parties completed briefing on May 7, 2014. (D.I. 289) The Court held oral argument on August 26, 2014. (*See* Transcript ("Tr.")) For the reasons discussed below, the Court will grant Defendant's motion.¹

BACKGROUND

Plaintiff Walker Digital, LLC ("Walker" or "Plaintiff") filed this case against Google and several other defendants on April 11, 2011. (D.I. 1) Walker subsequently entered into license agreements with all defendants except Google. (*See* D.I. 4, 19, 34, 37, 72, 95, 224) Google filed its answer and counterclaims against Walker on July 15, 2011. (D.I. 38) The Court construed certain claim terms of the patents-in-suit on July 25, 2013. (*See* D.I. 231, 232) The parties have completed fact and expert discovery. (*See* D.I. 233) No trial date has been set. (*See* D.I. 52, r20)

Walker asserts that Google infringes independent claims 1 and 23 and dependent claims 2, 5, 10, 11, 24, 27, 32, and 33 of the '270 patent, as well as independent claims 1 and 65 and dependent claims 2-4, 9-11, 19, 27, 28, 31, and 32 of the '272 patent. (D.I. 105 at 1 n.1) Both patents contain nearly identical specifications, were filed September 6, 1996, and issued on March 16, 1999. (D.I. 100 Ex. A, B)

The '270 patent is entitled "Method and System for facilitating an employment search

¹Other motions filed by both sides are also pending and will be denied as moot.

incorporating user-controlled anonymous communications." The '272 patent is entitled "Method and System for establishing and maintaining user-controlled anonymous communications." The patents relate generally to "controlling the release of confidential or sensitive information of at least one of the parties in establishing anonymous communications." ('270 patent col. 1:11-14; '272 patent col. 1:11-14)

Google contends that the asserted claims of the patents-in-suit are invalid under 35 U.S.C. § 101 due to lack of patentable subject matter because the claims are directed at "a purely mental process that could be performed without the aid of a computer." (D.I. 251 at 6) According to Google, the "claimed invention is directed to nothing more than the abstract idea of an exchange of information about people, long practiced by human matchmakers, simply appended to a general computer system to accelerate the process." (*Id.*) Google essentially argues that "[t]his is similar to the kind of 'organizing human activity' at issue in, [and found unpatentable by], *Alice*." *Planet Bingo, LLC v. VKGS LLC*, 2014 WL 4195188, at *2 (Fed. Cir. Aug. 26, 2014) (citing *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2356 (2014)).

Walker responds that Google's arguments lack merit. According to Walker, the Court may only find the patents invalid for lack of patentable subject matter if the patents preempt the entire idea of "controlled information exchange between anonymous parties." It follows, in Walker's view, that if it is possible to engage in "controlled information exchange between anonymous parties" in a manner that does not infringe the patents-in-suit, then the patents are not invalid for lacking patentable subject matter. (Tr. at 39-41)

LEGAL STANDARDS

I. Motion for Summary Judgment

Pursuant to Rule 56(a) of the Federal Rules of Civil Procedure, "[t]he court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." The moving party bears the burden of demonstrating the absence of a genuine issue of material fact. *See Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 585-86 (1986). An assertion that a fact cannot be- or, alternatively, is - genuinely disputed must be supported either by citing to "particular parts of materials in the record, including depositions, documents, electronically stored information, affidavits or declarations, stipulations (including those made for purposes of the motion only), admissions, interrogatory answers, or other materials," or by "showing that the materials cited do not establish the absence or presence of a genuine dispute, or that an adverse party cannot produce admissible evidence to support the fact." Fed. R. Civ. P. 56(c)(1)(A) & (B). If the moving party has carried its burden, the nonmovant must then "come forward with specific facts showing that there is a genuine issue for trial." *Matsushita*, 475 U.S. at 587 (internal quotation marks omitted). The Court will "draw all reasonable inferences in favor of the nonmoving party, and it may not make credibility determinations or weigh the evidence." *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 150 (2000).

To defeat a motion for summary judgment, the nonmoving party must "do more than simply show that there is some metaphysical doubt as to the material facts." *Matsushita*, 475 U.S. at 586; *see also Podobnik v. U.S. Postal Serv.*, 409 F.3d 584, 594 (3d Cir. 2005) (stating party opposing summary judgment "must present more than just bare assertions, conclusory

allegations or suspicions to show the existence of a genuine issue") (internal quotation marks omitted). However, the "mere existence of some alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment;" a factual dispute is genuine only where "the evidence is such that a reasonable jury could return a verdict for the nonmoving party." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247-48 (1986). "If the evidence is merely colorable, or is not significantly probative, summary judgment may be granted." *Id.* at 249-50 (internal citations omitted); *see also Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986) (stating entry of summary judgment is mandated "against a party who fails to make a showing sufficient to establish the existence of an element essential to that party's case, and on which that party will bear the burden of proof at trial"). Thus, the "mere existence of a scintilla of evidence" in support of the nonmoving party's position is insufficient to defeat a motion for summary judgment; there must be "evidence on which the jury could reasonably find" for the nonmoving party. *Anderson*, 477 U.S. at 252.

II. Lack of Patentable Subject Matter

Under 35 U.S.C. § 101, "[w]hoever 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." There are three exceptions to § 101's broad patent-eligibility principles: "laws of nature, physical phenomena, and abstract ideas." *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980). Pertinent here is the third category. "The 'abstract ideas' category embodies the longstanding rule that an idea of itself is not patentable." *Alice*, 134 S. Ct. at 2355 (internal citations omitted). "As early as *Le Roy v. Tatham*, 55 U.S. 156, 175 (1852), the Supreme Court explained that '[a] principle,

in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right.' Since then, the unpatentable nature of abstract ideas has repeatedly been confirmed." *In re Comiskey*, 554 F.3d 967, 977-78 (Fed. Cir. 2009).

In *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012), the Supreme Court set out a two-step "framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Alice*, 134 S. Ct. at 2355. First, courts must determine if the claims at issue are directed at a patent-ineligible concept. *Id.* If so, the next step is to look for an "'inventive concept' - *i.e.*, an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself." *Id.*

"Simply appending conventional steps, specified at a high level of generality, [is] not **enough** to supply an inventive concept." *Id.* at 2357 (internal quotation marks omitted) (emphasis in original). In *Bilski v. Kappas*, 130 S. Ct. 3218, 3231 (2010), for example, the Supreme Court held that the claims involved were drawn to the patent-ineligible abstract idea of "hedging, or protecting against risk," which was a "fundamental economic practice." Similarly, in *Alice*, the Supreme Court found that the claims were drawn to the patent-ineligible abstract idea of "intermediated settlement," which was also a "fundamental economic practice." 134 S. Ct. at 2356. In both cases, the Supreme Court found that the additional steps delineated in the claims did not embody an "inventive concept" sufficient to ensure that the patents amounted to more than patents upon the ineligible fundamental concepts themselves.

In determining if a patent embodies such an inventive concept, courts may consider

whether the process "is tied to a particular machine or apparatus" or "transforms a particular article into a different state or thing." *Bilski*, 130 S. Ct. at 3227 ("[T]he machine-or-transformation test is a useful and important clue, an investigative tool, for determining whether some claimed inventions are processes under § 101."). "[T]o impart patent-eligibility to an otherwise unpatentable process under the theory that the process is linked to a machine, the use of the machine must impose meaningful limits on the claim's scope." *CyberSource Corp. v. Retail Decision, Inc.*, 654 F.3d 1366, 1375 (internal quotation marks omitted). To be "a meaningful limit on the scope of a claim," the addition of a machine "must play a significant part in permitting the claimed method to be performed, rather than function solely as an obvious mechanism for permitting a solution to be achieved more quickly." *SiRF Tech., Inc. v. Int'l Trade Comm'n*, 601 F.3d 1319, 1333 (Fed. Cir. 2010). Hence, the "mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention." *Alice*, 134 S. Ct. at 2358. "Given the ubiquity of computers, wholly generic computer implementation is not generally the sort of additional feature that provides any practical assurance that the process is more than a drafting effort designed to monopolize the abstract idea itself." *Id.*

Although the "machine-or transformation test is a useful and important clue" to determining patentability, it is "not the sole test for deciding whether an invention is a patent-eligible 'process.'" *Bilski*, 130 S. Ct. at 3227. "[I]n applying the § 101 exception, [courts] must distinguish between patents that claim the building blocks of human ingenuity and those that integrate the building blocks into something more thereby transforming them into a patent-eligible invention." *Alice*, 134 S. Ct. at 2354 (internal citations omitted). The "concern that

drives the exclusionary principle [i]s one of pre-emption." *Id.* That is, where a "patent would pre-empt use of' basic tools of scientific and technological work, *i.e.*, laws of nature, natural phenomena, and abstract ideas, the patent would "impede innovation more than it would tend to promote it, thereby thwarting the primary object of the patent laws." *Id.*²

DISCUSSION

I. '270 Patent

Claims 2, 5, 10, and 11 of the '270 patent are all method claims and all depend from the method claim recited in independent claim 1. Claims 23, 24, 27, 32, and 33 are all system claims that are directly analogous to the methods recited in claims 1, 2, 5, 10, and 11.

Independent claim 1 recites as follows:

1. A method for operating a computer system to facilitate an exchange of identities between two anonymous parties, comprising the steps of:

receiving from a first party first data including an identity of said first party;

receiving from said first party at least two first-party rules for releasing said first data including a rule for releasing said identity of said first party;

receiving from a second party a search request comprising at least one search criterion;

²Contrary to Plaintiffs assertion, the inquiry on preemption is not whether patents directed at "building blocks of human ingenuity" would preempt an **entire** field but, instead, whether such patents "would risk **disproportionately** tying up the use of the underlying ideas." *Alice*, 134 S. Ct. at 2354 (emphasis added); *see also Prometheus*, 132 S. Ct. at 1294 (holding that "patents [that] would ... disproportionately t[ie] up the use of the underlying natural laws" are invalid for lacking patentable subject matter); *Gametec LLC v. Zynga, Inc.*, 2014 WL 1665090, at *5 (N.D. Cal. Apr. 25, 2014) ("A patent need not, however, preempt an entire field to run afoul of § 101; instead, the question is whether the patent 'would risk disproportionately tying up' the use of the abstract idea.").

receiving from said second party second data including an identity of said second party;

receiving from said second party at least two second-party rules for releasing said second party data including a rule for releasing said identity of said second party;

processing said search request to determine if said first data satisfies said search criterion;

and if said first data satisfies said search criterion, then exchanging said first and second data, except said identities of said first and second parties, between said first and second parties in accordance with said first-party and second-party rules, after said exchanging step, upon satisfying said first-party rule for releasing said identity of said first party, transmitting said identity of said first party to said second party, and after said exchanging step, upon satisfying said second-party rule for releasing said identity of said second party, transmitting said identity of said second party to said first party.

Dependent claim 2 recites:

2. A method in accordance with claim 1 wherein said step of receiving from a first party at least two first-party rules includes receiving at least one first-party rule before receiving said search request and storing said at least one first-party rule.

Dependent claim 5 recites:

5. A method in accordance with claim 1 wherein said step of receiving from said second party at least two second-party rules includes receiving at least one second-party rule before receiving said search request and storing said at least one second-party rule.

Dependent claim 10 recites:

10. A method in accordance with claim 1 wherein at least one of said first-party rules is conditional on the content of said second data.

Dependent claim 11 recites:

11. A method in accordance with claim 1 wherein at least one of said second-party rules is conditional on the content of said first data.

Google contends that, in each asserted claim, the claimed invention is directed to "nothing more than the abstract idea of a controlled exchange of information about people that has long been practiced by human matchmakers or headhunters." (D.I. 289 at 5) The patent specification recognizes that in the prior art, "to find potential candidates" companies would "engage an employment search firm to discretely find potential candidates without disclosing to the market, or even potential candidates, the company's identity until the company decides to confide in or hire a particular candidate." ('270 patent col. 2:42-47) Similarly, in the context of dating, "a person could serve as a match-maker by setting up two people with whom he is acquainted on a blind date." (*Id.* at col. 3:47-49) Given the prior art, the invention was purportedly necessary to create "a system that allows users to [1] exercise control over the release of information to others and [2] provides efficient anonymous communication." (*Id.* at col. 4:9-11)

Plaintiff, through the testimony of its expert, Dr. Craig Wills, asserts that the methods and systems of the '270 patent claim more than an abstract idea because the claims contain meaningful limitations, specifically requiring the following steps:

[1] receiving party data including an identity from both a first and second party;

[2] receiving at least two rules for releasing party data, including a rule for releasing identity, from each party;

[3] receiving a search request from a second party;

[4] processing the second party's search request to determine if party data provided by a first party satisfies the search criterion used;

[5] if the data provided by the first party satisfies the search criterion of the second party's search request, the asserted independent claims require exchanging first and second party data except the identities of the first and second party in accordance with the first and second party rules for releasing their respective data; and

[6] releasing the identities of the first and second parties upon satisfying the first and second party rules for releasing their respective identities after the exchange of the non-identity first and second party data.

(D.I. 283 ,¶ 12) However, none of these limitations adds anything meaningful to the basic concept of controlled exchange of information about people as historically practiced by matchmakers and headhunters - and as disclosed in the patent specification itself.³ By contrast, all of these steps could be performed (and have been performed) by human beings interacting with one another prior to the filing of the '270 patent.

³Although Google did not present expert testimony to rebut Dr. Wills, the Court concludes that Dr. Wills' testimony raises no material factual disputes between the parties. Initially, the Court finds that Dr. Wills' analysis is largely conclusory. Additionally, Dr. Wills contends that the asserted claims cannot be performed without a computer - but, for the reasons explained in this Memorandum Opinion, even if he is correct, that does not save the patent's claims. Likewise, even accepting as true Dr. Wills' opinion that the "anonymous methods and systems claimed by the patents-in-suit were novel and unknown to those of ordinary skill in the art at the time" of the invention (D.I. 283 ,¶ 15), the Court has concluded (based on evidence, including the patents' specifications) that these "methods and systems" are directed to abstract ideas and do not contain any limitations meaningfully distinguishing the claims from the prior art practices of headhunters and matchmakers.

To be meaningful, a limitation must consist of some "inventive concept;" if a patentee contends this is so on the basis that the invention incorporates a machine, the machine must "play a significant part in permitting the claimed method to be performed." On these points, a recent Federal Circuit case on patentable subject matter is instructive. In *SmartGene, Inc. v. Advanced Biological Laboratories, SA*, 555 F. App'x. 950, 951 (Fed. Cir. Jan. 24, 2014), the patent at issue claimed a method "for guiding the selection of a treatment regimen for a patient with a known disease or medical condition." Claim 1 claimed:

a "method for guiding the selection of a therapeutic treatment regimen for a patient with a known disease or medical condition." The method (1) "provid[ed] patient information to a computing device" having routine input, memory, look-up, comparison, and output capabilities and that (2) "generat[ed] ... a ranked listing of available therapeutic treatment regimens" and (3) "generat[ed] ... advisory information for one or more therapeutic treatment regimens in said ranked listing."

Id. at 954-55. Claim 1 also included a "computing device" containing "a set of 'expert rules for evaluating and selecting' from a stored 'plurality of different therapeutic treatment regimens,' as well as 'advisory information useful for the treatment of a patient with different constituents of said different therapeutic treatment regimens.'" *Id.* at *955. The Federal Circuit concluded that this "computing device" limitation was "broad" and not meaningfully distinguishable from "a doctor's mind." *Id.* Thus, although the claimed method recited several rules ostensibly narrowing the claimed invention, the claim was held to be not patent eligible, because section 101 does not "embrace a process defined simply as using a computer to perform a series of mental steps that people, aware of each step, can and regularly do perform in their heads." *Id.* at *954, citing *CyberSource*, 654 F.3d at 1373. Yet this was all that the claims themselves

embraced.

Much like the "rules" listed in *SmartGene*, the additional "steps" of the claims of the '270 patent are merely "a series of mental steps that people, aware of each step, can and regularly do perform in their heads." The claim limitations essentially recite a generic headhunting or matchmaking request by two parties. There is nothing "inventive" about any of the listed rules or any other steps of the claims, including the order in which they are to be performed.⁴ Instead, the claim limitations simply lay out an interaction whereby two parties share a series of demands with a third party, where one of the demands of both parties is that the parties' identities remain anonymous unless and until there is at least some overlap between the demands and requirements of the two parties.

As the following hypothetical (articulated by Google, and not meaningfully distinguished by Walker) shows, these steps can and routinely are performed by, for example, human job headhunters:

Limitations of '270 Patent Claim 1	Routine Steps Performed when Headhunting
"receiving from a first party first data including an identity of said first party"	Carol receives a resume from Alice, which lists Alice's college degree, 8 years of sales experience, interests, and other information, including Alice's name
"receiving from said first party at least two first-party rules for releasing said first data including a rule for releasing the identity of said first party"	Alice instructs Carol to disclose her education and sales experience to companies with open sales positions but not to disclose her name unless the company is offering a salary of at least \$75,000

⁴Toere is no dispute that the method claims for both patents can be practiced with or without a computer. (Tr. at 10-12, 36-37)

"receiving from a second party a search request comprising at least one search criterion"	Bob asks Carol to find an employee with sales experience for his company
"receiving from said second party second data including an identity of said second party"	Bob tells Carol that the job at his company is a sales position that pays \$100,000 in salary and that the name of his company is Bob's Software
"receiving from said second party at least two second-party rules for releasing said second party data including a rule for releasing said identity of said second party"	Bob instructs Carol that she can disclose information about the job opening to any applicant with sales experience and that she can provide the salary offer to any applicant with a college degree but not to disclose the name of his company unless the applicant has more than 5 years of sales experience
"processing said search request to determine if said first data satisfies said search criterion"	Carol checks to see if Alice has the necessary sales experience requested by Bob
"if said first data satisfies said search criterion, then exchanging said first and second data, except said identities of said first and second parties, between said first and second parties in accordance with said first-party and second-party rules"	Once Carol determines that Alice has the necessary sales experience for Bob, Carol provides Alice's college degree and years of sales experience to Bob, but not Alice's name, and provides information to Alice about the sales position available at Bob's company and the salary information, but not the name of Bob's company, in accordance with Alice's instructions and Bob's instructions
"after said exchanging step, upon satisfying said first-party rule for releasing said identity of said first party, transmitting said identity of said first party to said second party, and after said exchanging step, upon satisfying said second-party rule for releasing said identity of said second party, transmitting said identity of said second party to said first party"	After Carol provides Alice's sales experience and college degree to Bob and provides Bob's salary offer and sales position available at Bob's company to Alice, Carol gives Alice's name to Bob upon determining that Bob's company is offering at least \$75,000 in salary and tells Alice the name of Bob's company upon determining that Alice has more than 5 years of sales experience

Even after carefully reviewing the parties' briefs and the patents, and questioning the

parties about Google's hypothetical at the hearing, the Court is unable to discern any reason why, in Google's hypothetical, Carol would not be liable for infringement of Walker's '270 patent. Based on the undisputed evidence, and drawing all reasonable inferences in Walker's favor, the Court concludes that every step of claim 1 of the '270 patent is performed in Google's routine headhunting hypothetical. It follows that all the steps of the '270 patent are routine and unconventional. To allow the claim to survive would disproportionately risk preempting a building block of human interaction, retarding rather than promoting progress, contrary to the very purpose patents are granted. *See* U.S. Const. Art. I § 8 ("The Congress shall have Power ... To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive **Right** to their respective Writings and Discoveries ").

The asserted dependent claims of the '270 patent fare no better. Those claims require receiving and storing (claim 2 and 5) and narrowing the scope of a party's demands (claims 10 and 11) - but these additional steps again add no inventive element to the mental processes claimed by the '270 patent. Similarly, the system claims recited in claims 23, 24, 27, 32, and 33 merely take the abstract idea of claims 1, 2, 5, 10, and 11 and list generic computer components (processor, memory) to implement the abstract idea. Even accepting that the use of a computer increases speed and efficiency of performing the steps of the claims, and improves the likelihood of preserving the anonymity of the first and second parties, these characteristics do not save the claims. As the Supreme Court has stated, "the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention. Stating an abstract idea while adding the words 'apply it' is not enough for patent eligibility." *Alice*, 134 S. Ct. at

2358.⁵

Accordingly, the Court will grant Google's motion with respect to Walker's '270 patent.

II. '272 Patent

The analysis is largely the same with respect to Walker's '272 patent and the Court reaches the same conclusions as it did in connection with the '270 patent. Independent claim 1 of the '272 patent is a method claim; asserted dependent claims 2-4, 9-11, 19, 27, 28, 31, and 32 are also method claims and all depend from independent claim 1. Independent claim 65 is a system claim.

Claim 1 recites as follows:

1. A method for facilitating an exchange of information between a first party and a second party, comprising the steps of:

receiving first party information data from said first party;

storing said first party information data in a secure database;

receiving, from said first party, at least one first party rule for releasing said first party information data;

storing said at least one first party rule;

receiving, from said second party, a search request to the secure database, said search request comprising at least one search criterion to be satisfied;

determining second party data relevant to said at

⁵Plaintiff concedes that the system claims merely add generic computer components to the method claims and, therefore, rise and fall with the method claims. (Tr. at 54)

least one first party rule;

receiving, from said second party, at least one second party rule for releasing said second party data;

processing said search request from said second party to determine if said first party information data satisfies said at least one search criterion;

if said first party information data satisfies said at least one search criterion, then:

communicating to said second party that said at least one search criterion has been satisfied;

receiving a request from said second party for said first party information data;

releasing said second party data pursuant to said second party rule;

determining, based on said second party data, whether said at least one first party rule has been satisfied; and

if said at least one first party rule has been satisfied, providing, to said second party, said first party information data for which said at least one first party rule has been satisfied.

The asserted dependent claims recite:

2. The method according to claim 1, further comprising the step of: authenticating authorship of said first party information data.
3. The method according to claim 2, wherein the step of authenticating includes the substep of executing a cryptographic operation using a cryptographic key.
4. The method according to claim 2, wherein the step of authenticating includes the substep of recognizing an identifier selected from the group

consisting of a password, a name, and an identification number.

9. The method according to claim 1, wherein the step of determining second party data further comprising the step of: receiving, from said second party, said second party data corresponding to the second party.
10. The method according to claim 9, further comprising the step of authenticating authorship of the received second party data.
11. The method according to claim 10, wherein the step of authenticating includes the substep of recognizing an identifier selected from the group consisting of a password, a name, and an identification number.
27. The method of claim 1, wherein the first party is a job candidate and the second party is an employer.
28. The method of claim 27, wherein the first party information data comprises at least one of an identity of the job candidate, an address of the job candidate, at least one vital statistic of the job candidate, a description of a work experience of the job candidate, an educational background of the job candidate, an interest of the job candidate, a resume of the job candidate, a list of at least one publication written by the job candidate, and a list of at least one award received by the job candidate.
31. The method of claim 1, wherein the first party and the second party are individuals seeking a personal relationship.
32. The method of claim 31, wherein the first party information data comprises at least one of an identity of the first party, an address of the first party, a vital statistic of the first party, a work experience of the first party, an educational background of the first party, and an interest of the first party.

Google contends that, "[a]s with the claims of the '270 patent, the method claims of the '272 patent are likewise patent-ineligible because they are directed to a series of process steps that are unconnected to any particular machine." (D.I. 251 at 12) Unlike claim 1 of the '270 patent, the preamble to claim 1 of the '272 patent does not claim "[a] method for operating a computer system to facilitate an exchange" Instead, claim 1 of the '272 patent claims "[a] method for facilitating an exchange of information between a first party and a second party." None of the limitations recited in the method claims of the '272 patent recites the use of a machine. The only structural element disclosed in Claim 1 is a "secure database." ('272 patent claim 1) ("receiving, from said second party, a search request to the secure database") However, the "secure database" term has not been construed (no party asked the Court to do so, *see* D.I. 100 at 2) and is given its plain and ordinary meaning, which is not limited to a computer, but may also include, for example, a locked file-cabinet. *See, e.g., MySpace, Inc. v. GraphOn Corp.*, 672 F.3d 1250, 1255 , 1257 (Fed. Cir. 2012) (stating "database" means "a collection of data within a given structure that can be stored and retrieved," which would include paper filing cabinet).

Similarly, claim 3 recites "executing a cryptographic operation using a cryptographic key," but this process is also not tethered to any computer. "Cryptographic operation" has been construed to mean "operation to encrypt or decrypt data." (D.I. 232 at 1) "Cryptographic key" has been construed to mean "data used as an input to an operation to encrypt or decrypt other data." (*Id.*) "Executing a cryptographic operation using a cryptographic key" would, therefore, include something like the type of substitution cipher one might find in a newspaper (A=T, B=U, etc.). Accordingly, claims 1 and 3 are not tied to a machine and cannot satisfy the machine or transformation test.

Plaintiffs expert, Dr. Wills, opines that the '272 patent contains the following meaningful limitations:

- [1] receiving party data from a first party and storing it in a secure database;
- [2] receiving rules from both a first and second party for releasing their respective data;
- [3] receiving a search request from a second party;
- [4] processing the second party's search request to determine if party data provided by a first party satisfies the search criterion used; and
- [5] if the data provided by the first party satisfies the search criterion of the second party's search request, the asserted independent claims require communicating to the second party that at least one search criterion has been satisfied, receiving a request from the second party for data provided by the first party, releasing the second party's data pursuant to the second party's rule, determining whether the first party's rule is satisfied based on the second party data, and, if the first party rule has been satisfied, providing the first party data to the second party.

(D.I. 283 ,¶ 13) As with the steps of the '270 patent, however, these steps add nothing inventive to the core concept of anonymously exchanging information about people, a practice that is described in the patent's specification has having long been practiced by human headhunters and matchmakers.

As it did with the '270 patent, Google has provided a hypothetical example, shown below, demonstrating that the limitations of the '272 patent essentially recite an interaction whereby two parties communicate with a third party and, after some threshold requirements of both parties are met, the third party releases more information about the two parties to each other, all of which can be routinely performed by a headhunter:

Limitation of '272 Patent Claim 1	Routine Steps Performed when Headhunting
"receiving first party information data from said first party"	Carol receives a resume from Alice, which lists Alice's college degree, 8 years of sales experience, interests, and other information, including Alice's name
"storing said first party information data in a secure database"	Carol stores Alice's resume containing her sales experience information in a locked filing cabinet where Carol keeps files
"receiving, from said first party, at least one first party rule for releasing said first party information data"	Alice instructs Carol to disclose her years of sales experience only to employers offering a salary amount of over \$75,000
"storing said at least one first party rule"	Carol stores Alice's instruction in her filing cabinet
"receiving, from said second party, a search request to the secure database, said search request comprising at least one search criterion to be satisfied"	Carol receives from Bob a request to search her resume files to find job candidates who have at least 5 years of sales experience
"determining second party data relevant to said at least one first party rule"	Carol determines that Bob's salary offer of \$100,000 is relevant to Alice's instruction as to whether Alice's years of sales experience may be disclosed
"receiving, from said second party, at least one second party rule for releasing said second party data"	Carol receives an instruction from Bob to release his offered salary amount only to candidates with at least 5 years of sales experience
"processing said search request from said second party to determine if said first party information data satisfies said at least one search criterion"	Carol reviews Bob's request to determine if Alice's level of sales experience satisfies Bob's requirement of having at least 5 years of sales experience
"if said first party information data satisfies at least one search criterion, then communicating to said second party that said at least one search criterion has been satisfied"	Since Alice's experience meets Bob's requirement, Carol tells Bob that she found a candidate with at least 5 years of sales experience
"receiving a request from said second party for said first party information data"	Bob asks Carol for the candidate's sales experience

"releasing said second party data pursuant to said second party rule"	Carol tells Alice about Bob's salary offer pursuant to Bob's instruction that his salary offer can be disclosed to a candidate with at least 5 years of sales experience
"determining, based on said second party data, whether said at least one first party rule has been satisfied"	Based on Bob's salary offer amount, Carol determines whether she can comply with Alice's instruction regarding when to release Alice's years of sales experience
"if said at least one first party rule has been satisfied, providing, to said second party, said first party information data for which said at least one first party rule has been satisfied"	Since Bob is offering a salary of \$100,000 which satisfies Alice's requirement of a salary offer of at least \$75,000 before disclosing Alice's sales experience, Carol provides information about Alice's 8 years of sales experience to Bob

As with the '270 patent hypothetical, here again Walker has no persuasive response to the suggestion that Carol is practicing all of the steps of the '272 patent. (*See* Tr. at 37-38) Because claim 1 of the '272 patent can be performed entirely in a person's mind using routine and conventional steps, it is not directed to patentable subject matter. *See CyberSource Corp.*, 654 F.3d at 1373 ("[A] method that can be performed by human thought alone is merely an abstract idea and is not patent-eligible under § 101. Methods which can be performed entirely in the human mind are unpatentable not because there is anything wrong with claiming mental method steps as part of a process containing non-mental steps, but rather because computational methods which can be performed **entirely** in the human mind are the types of methods that embody the 'basic tools of scientific and technological work' that are free to all men and reserved exclusively to none.") (emphasis in original).

The dependent claims add nothing meaningful. Claims 2, 4, 10, and 11 merely require confirming that the parties are who they claim to be by, for example, reading their names on their resumes and comparing them to names on driver's licenses. Claim 9 requires determining

second party data by getting the data from the second party; e.g., Carol receives from Bob information about the \$100,000 salary offer for the job available at Bob's company. Claims 27 and 31 simply limit the claimed method to interactions between job candidates and employers and individuals seeking personal relationships, respectively. Claims 28 further defines "first party information data" as comprising fundamental job-seeking information such as the first party's name, address, date of birth, work experience, educational background, personal interest, list of publications, and list of awards. Similarly, claim 32 defines "first party information data" as comprising basic personal information routinely used in matchmaking, including the party's name, address, date of birth, work experience, educational background, and interests. Notably, the patent's specification (like that of the '270 patent) recognizes that these two potential uses for the purported invention (job-hunting and matchmaking) have been practiced for years. (*See* '272 patent col. 2:43-48, 3:48-51)

Claim 3, as discussed earlier, adds the step of using a cryptographic key to execute a cryptographic operation when authenticating the first party's data. These steps can be performed entirely within the human mind. In sum, because the entirety of claim 1 and each of its asserted dependent claims can be performed in a person's mind, and because the claim limitations merely append routine and ordinary steps to an abstract idea, the claims are not directed to patentable subject matter.

Finally, independent claim 65 applies the method disclosed in claim 1 by way of a generic computer with standard computer components including a "memory," a "processor," and "a communication port." None of these components converts a general computer into a specialized computer. As discussed above, merely reciting the use of a generic computer in implementing an

unpatentable abstract idea does not inject patentable subject matter into an invention.

CONCLUSION

It bears emphasis that, as the Supreme Court recently explained in *Alice*, 134 S. Ct. at 2354-55:

[I]n applying the § 101 exception, [the Court] must distinguish between patents that claim the building blocks of human ingenuity and those that integrate the building blocks into something more thereby transforming them into a patent-eligible invention. The former would risk disproportionately tying up the use of the underlying ideas and are therefore ineligible for patent protection. The latter pose no comparable risk of pre-emption, and therefore remain eligible for the monopoly granted under our patent laws.

Here, Walker contends that the asserted claims of the patents-in-suit "integrate" the abstract idea of "controlled information exchange between anonymous parties" into "something more thereby transforming" this building block of human ingenuity into a patent-eligible invention. However, the Court fails to see anything "more" in the asserted claims than the abstract idea, implemented in a conventional manner using a general purpose computer, and is compelled to conclude that the patents risk "disproportionately tying up the use of the underlying ideas." Accordingly, the asserted claims of the patents-in-suit are invalid due to lack of patentable subject matter and Google's motion must be granted.

An appropriate Order follows.