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HOW MANY PATENTS ARE ENOUGH FOR A PRODUCT?

Author: Xiaohong Liu, Ph.D.

The answer to this question of course, depends on the commercial value of the product. However, it is also obvious that the commercial value of a product is closely correlated to the number of patents for its protection. The relationship between commercial value and number of patents is best illustrated by the relevant facts for the most expensive pharmaceutical products.

It is well known that drugs are expensive, and their patent protection is an easy target for criticism. A recent report by I-MAK on the twelve best-selling drugs in the United States indicated that there are on average 125 filed patent applications and 71 issued patents for each of these drugs. The price for these drugs has increased by 68% on average since 2012. Humira, the number-one selling drug on earth by Abbvie for arthritis, has 247 patent applications and 132 issued patents for its protection, to go with its $18B global sale in 2017 (more than $50.5M per day) and 144% price increase since 2012. Humira came to the market in 2002 and the patent on Humira's main ingredient expired in 2016. However, no generic alternate drug appeared on the market because of the other patents for its manufacturing methods and processes. Putting aside the question of whether the pharmaceutical companies abuse the patent system, one can easily conclude that filing more patent applications for an important product works in their favor.

Humira, like other biological drugs on the market, is not difficult to make or copy. However, unlike those traditional chemical drugs, biological drugs require complex manufacturing and quality control processes. The pharmaceutical companies usually file a lot of patent applications on every possible aspect of manufacture and the sheer number of these patents or patent applications have certainly played an important role to discourage potential competitors to try filing.

More issued patents or patent applications for any product increases a competitor's cost to compete. Regardless of their quality, more patents or patent applications means a higher cost, even to evaluate them. More patents make it harder to find out an alternative and effective way to design around the original. Ever if one thinks that it is easier to challenge and invalidate a patent under the current patent system, the cost to do so is still directly proportional to the number of issued patents and the number of claims in each of them. The number of issued patents and patent applications on a product is still a very effective barrier to defend any competition.

The number of patents or patent applications on the most expensive drugs is absurd and impossible to emulate for other types of products. However, the strategy used for these drugs is very effective for anyone who wants to use patents to protect a product. The commercial value of any product can increase when you file more patent applications, not only on the original design or composition, but also its improvement and manufacture processes. Both quality and quantity matter, and quantity is usually better.

For more information on this topic, contact Intellectual Property Attorney, Xiaohong Liu, Ph.D., by calling our office at (515) 288-3667.

PROTECTING CREATIVITY & INVENTIVENESS BY ARTIFICIAL INTELLIGENCE

Author: Kirk M. Hartung

Artificial intelligence (AI) has progressed to a state where, based upon software and algorithms written by humans, the computer itself can solve problems and discover better ways to accomplish desired results. Artificial intelligence is being used in many industries, including agriculture, education, manufacturing, and medicine. The inventions and creations of the computer itself, rather than a human, has huge potential for benefiting people in all walks of life. However, decades-old patent and copyright laws may not currently be sufficient, or applicable, enough for this new creativity by non-humans.

"Artificial intelligence" was coined by John McCarthy, an American computer scientist, in 1956. Today, AI is generally understood to mean intelligence by machines which mimic cognitive human functions, such as learning and problem-solving. More specifically, AI is a field of computer science, including such things as machine learning, natural language processing, speech processing, expert systems, robotics, and machine vision. Experts speculate that AI worldwide revenues will grow from approximately 8 billion in 2016 to 47 billion in 2020, and as much as 15 trillion by 2040. Thus, there is tremendous value in protecting AI inventions and creations.

Currently, thousands of patent applications are being filed in the U.S. Patent Office for inventions directed to AI, and despite the patent eligibility issues, patents are being issued on AI inventions by humans. However, these patents are distinct from the possibility of inventions by computers using AI. Whether such inventions can or should be protected by patents, raises many issues for these thinking machines.

An early AI pioneer, Stephen Thaler, developed the "Creativity Machine" in 1994. This machine was credited with an invention which is covered by U.S. patent 5,852,815 issued in 1998, the first known patent on an AI-generated invention. The 815 patent lists Thaler as the sole inventor, though his Creativity Machine is credited with generating the invention. Another computer scientist, John Koza, designed the Invention Machine based on genetic programming and biological evolution. This machine made an invention covered by US patent 6,847,851 issued in 2005, listing three people as inventors.

Thus, inventions generated autonomously by computers using artificial intelligence are here. But how do the patent laws apply to such inventions?

The starting point is the first patent statute, 35 U.S.C. § 100, which defines "inventor" as the "individual" who invents or discovers the subject matter of the invention. While a human wrote the software code for the computer, that programmer did not invent the solution to the problem. Rather, the solution was generated by the AI. Thus, the computer may be the inventor, and not the programmer.

§100 provides that "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title". Does "whoever" imply a person, and not a machine?

§102 defines the conditions for patentability, particularly novelty, and states, "A person shall be entitled to a patent unless…" Thus, §102 seems to preclude a patent for invention created by AI. However, §103 describes the non-obviousness requirement for patentability, and provides, "patentability shall not be negated by the manner in which the invention was made". Thus, § 103 seems to be inclusive of AI generated inventions, and inconsistent with §102.

§103 raises another dilemma for AI inventions, by requiring that the differences between the claimed invention and the prior art must be non obvious "to a person having ordinary skill in the art…." Should or can an invention by a computer be tested or compared to a person skilled in the art? If AI provides a novel and useful solution to a problem, which no human had solved, is that solution per se non-obvious?

The patentability of AI-generated inventions has not been addressed by either Congress or the courts. China's New Generation Artificial Intelligence Development Plan refers to AI Intellectual Property rights, so China appears to be ahead of the United States on such rights.

AI can also generate written documents, music, and other creative works of authorship. For example, software now exists which allows computers to use artificial intelligence to write patent applications, which long ago were deemed to be one of the most complex types of legal documents.

U.S. copyright law protects original works of authorship fixed in a tangible medium, however, the copyright statutes do not define "author". According to one U.S. Supreme Court decision, the author is the "person who translates an idea into a fixed, tangible expression". *Community for Creative Non-violence v. Reid*, 490 U.S. 730. 737 (1989).

In 2014, the U.S. Copyright Office issued rules precluding registration of works produced by a machine that operates without any grade of input from a human author. See *Compendium of U.S. Copyright Office Practices, 3rd Edition*, Section 313.2. This rule was issued in response to an effort to register a selfie photograph taken by a monkey. This rule does not specifically apply where a computer or A.I. machine is programmed by humans to create a work of art or authorship.

Germany and Australia also had recent case law which specified that human creation is a prerequisite for Copyright protection, the United Kingdom, Ireland, and New Zealand have approved copyright protection for computer-generated creations.

In the U.S. Constitution, Article 8, Section 8, the Founding Fathers gave Congress the power to promote the progress of sciences and the useful arts. It seems time for Congress to consider how to protect the inventions, discoveries, and creative works of authorship arising from artificial intelligence.

For more information on this topic, contact Kirk M. Hartung, Chair of the Mechanical Practice Group at MVS, by calling our office at (515) 288-3667.

BIG MAC BLUNDER: MCDONALD'S LOSES EUROPEAN TRADEMARK RIGHTS FOR FAMOUS BURGER

Author: Nicholas J. Krob

Last month, the European Union Intellectual Property Office (EUIPO) issued a surprise decision revoking fast food giant McDonald's "BIG MAC" EU trademark registration in its entirety. The decision was the latest development in an ongoing battle between McDonald's and Irish fast food restaurant, Supermac's.

McDonald's trouble started in 2014 after they opposed Supermac's trademark application for "SUPERMAC'S". McDonald's alleged that registration of this mark would cause a likelihood of confusion amongst consumers, constitute unfair advantage, and detriment the distinctiveness or repute of numerous McDonald's marks, including "BIG MAC", which had been registered with the EUIPO since 1998. Ultimately, in 2016, the Opposition Division of the EUIPO ruled that the SUPERMAC'S mark must be rejected for all goods and services that were identical or similar to those offered by the various McDonald's marks.

Supermac's hit back at McDonald's by filing a request for revocation of McDonald's BIG MAC mark in 2017 (Cancellation No 14 788 C). Supermac's alleged that McDonald's had not put the BIG MAC mark to genuine use in the EU during a continuous period of five years following the date of registration in relation to any of the registered goods and services, as is required under EU trademark law.

To prove such use, McDonald's submitted affidavits from McDonald's representatives, brochures and printouts of advertising posters, printouts from McDonald's websites, and a printout from Wikipedia. However, the Cancellation Division of the EUIPO determined this evidence was insufficient. The Cancellation Division concluded that, while the evidence exhibited the "BIG MAC" mark used in relation to some relevant goods, it did not give any data for the real commercial presence of the mark or otherwise prove the extent of its use, failing to establish things such as the place, time, or extent of any use. For instance, the Cancellation Division noted that the website materials showed use of the "BIG MAC" mark but failed to show how often the websites were visited, the locations from which they were visited, or whether any orders were placed through the websites (or whether it was even possible to do so). Because of this, the Cancellation Division determined McDonald's "has not proven genuine use of the [BIG MAC mark] for any of the goods and services for which it is registered" and cancelled the mark in its entirety.

While this is a surprising result given the widespread popularity and commercial success of McDonald's and its Big Mac burger, it serves as an important reminder for all trademark owners, whether big or small, to be diligent in the maintenance of their marks. For even something as big as the Big Mac is not immune from a loss of trademark rights.

For more information on this topic, contact Intellectual Property Attorney, Nicholas J. Krob, by calling our office at (515) 288-3667.

MVS OBTAINS JURISTAT SOFTWARE

Author: Heidi S. Nebel

Ever wonder if you have been "blessed" with a difficult Examiner?

Wondered if your issue in a case has been successfully resolved in another case?

Wondered if your competitors are having the same issues before the United States Patent & Trademark Office (USPTO) as you?

Wondered how many cases your competitor has filed?

Wondered if statistically your chances of appeal on a certain issue or from a certain Examiner would support proceeding?

These are just some of the questions we can now answer for our clients with Juristat software. This new software uses analytics from the USPTO to aggregate everything from specific rejections (101, Myriad), to specific Examiners, to allowance rates, to average time to allowance, rates of allowance, etc.

In one case, we found that an Examiner's allowance rate went from 62% to 89% after an interview. We successfully interviewed the case and received an allowance. In other situations, we have found that certain Examiners almost always allow after three rounds of prosecution. We can even look up an Examiner's similar rejections in other cases to see what arguments were found persuasive to the Examiner, or if the Examiner has been reversed on appeal. We can review any competitor's applications, allowance rates, filing data, arguments used, etc.

This sort of statistical data provides a powerful piece of information that we can combine with our own expertise and experience to give MVS clients a competitive advantage at the USPTO. We can offer strategic and statistically-proven advice on strategy, cost management, and successful legal arguments. Using the software on our own firm, we learned that MVS has a 91% allowance rate at the USPTO over the last 10 years!

For more information on this topic, contact Intellectual Property Attorney, Managing Member, and Chair of the Biotechnology & Chemical Practice Group, Heidi S. Nebel, by calling our office at (515) 288-3667.

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April 11, 2019

MVS is a sponsor of the Technology Association of Iowa (TAI) Prometheus Awards, celebrating technology companies across the State of Iowa. MVS is presenting the Creative Technology Solution of the Year award.

April 15, 2019

MVS is a sponsor of the Invent Iowa State Invention Competition. MVS attorneys will judge, select, and present the Agriculture Award in Iowa City, Iowa.

April 30 - May 1, 2019

MVS is a sponsor of the Iowa Biotech Association Partnering for Growth Conference in Ankeny, Iowa. The conference features industry leaders and an opportunity to network, learn and hear from leaders in various biotech industries.

April 30, 2019 & May 2, 2019

R. Scott Johnson is speaking at the Association of Equipment Manufacturers (AEM) Product Liability Seminar and Product Safety & Compliance Seminar. Both conferences are being held in Des Moines, Iowa. Scott will be speaking on instruction manual writing and data security.

May 17-22, 2019

Bruce W. McKee, Christine Lebron-Dykeman, and Brandon W. Clark are attending the International Trademark Association (INTA) Annual Meeting in Boston, MA. The conference brings together thousands of trademark professionals and industry leaders from around the world to network, learn, and discuss key initiatives in the field.

If you're interested to learn about what our MVS attorneys attend and learn, please contact them through www.ipmvs.com or by calling 515-288-3667.