Material Risk for Align Technology, Inc.

Intellectual Property Analysis of Align Technology, Inc.

January 13, 2014

The stock price of Align Technology, Inc. (Align) has lately been at an all time high and Align's revenues increased 21% in the third quarter of 2013. However, analyses of Align's fundamental technologies reveal serious weaknesses in the company's ability to protect its marginal revenues.

Align is an aggressive defender of its market share and routinely uses litigation to attempt to force competitors out of the clear aligner market. In 2005, it sued OrthoClear, Inc. in the Northern District of California and in the Superior Court of San Francisco for patent and trademark infringement, among other things, and ultimately settled out of court with OrthoClear agreeing to end all US operations and Align paying $20 million for its IP.[1] In 2011, Align brought another infringement suit against Ortho Caps GmbH and Rasteder KFO Spezial-Labor GmbH in Germany and won a permanent injunction.[2]

In contrast, Align has had notable setbacks in court in the United States. After a jury found in 2009 that Align infringed Danaher Corporation subsidiary Ormco's intellectual property[3], and a judge invalidated claims from several of Align's patents, Align and Danaher reached a settlement. Danaher took a 10% equity holding in Align and a cash payment of $13 million, for a total value of the settlement at that time of $90 million.[4] The two companies agreed to exclusively collaborate over the next seven years. That collaboration was problematic and in November, 2013 Danaher sold over half of its shares in Align.[5]

In 2009, ClearCorrect, LLC, an Align competitor, sought a declaration of non-infringement, invalidity, and unenforceability related to certain Align intellectual properties. ClearCorrect submitted a motion to dismiss once Align agreed not to sue ClearCorrect for patent infringement.[6] Despite that agreement, Align filed two complaints against ClearCorrect in 2011.[7] Align alleged that ClearCorrect was infringing US 6,471,511; US 6,217,325; US 5,975,893; US 6,705,863; US 6,722,880; US 7,125,248; US 7,134,874; and US 7,578,674 in a complaint filed in the Southern District of Texas, and filed a complaint for unlawful business practices in the Superior Court of San Francisco, asserting that ClearCorrect was not charging enough for its product. In 2012, Align filed two complaints against ClearCorrect with the US International Trade Commission (ITC).

Analysis of Portfolio

M·CAM used its proprietary analytical systems to analyze over 1700 innovation documents held by Align. The dental company's early technology patents originated in the period between 1995-1997. Align has pointed out that the expiration of those early patents in 2016-2017 would put them at risk to further competition. The more fundamental question for investors is: are they worth the paper that they are printed on? Listed below are two key examples from Align's portfolio.

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[1] http://www.sec.gov/Archives/edgar/data/1097149/000110465907018240/a07-5886_110k.htm
[2] http://investor.aligntech.com/releasedetail.cfm?ReleaseID=778629
[3] http://www.prnewswire.com/news-releases/jury-renders-verdict-for-ormco---aligns-invisalignr-product-infringes-ormco-patent-61894357.html
[4] http://investor.aligntech.com/releasedetail.cfm?ReleaseID=403557
[5] http://www.sec.gov/Archives/edgar/data/313616/000119312513441265/d628653dsc13da.htm
[6] http://www.reuters.com/article/2009/04/09/idUS222782+09-Apr-2009+MW20090409
[7] http://blog.clearcorrect.com/category/Legal.aspx

Document #	Title	Assignee Name	Priority	File	Issue
US 5,975,893	Method and system for incrementally moving teeth	Align Technology, Inc.	20-Jun-97	8-Oct-97	2-Nov-99
US 5,820,368	Disposable applicator for forming and retaining an orthodontic attachment	Align Technology, Inc.	23-Oct-95	12-Feb-96	13-Oct-98

In 2005, the USPTO reexamined US 5,975,893 (the '893 patent) and rejected all 29 of its claims preliminarily.[8] The '893 patent did emerge from reexamination intact, although how this occurred is unclear since most of the reexamination documents are missing from its file on the United States Patent and Trademark Office website. The '893 patent was one of nine patents subjected to a request for reexamination.[9] Not all of these patents survived intact. For example, US 6,217,325 entitled "Method and system for incrementally moving teeth" had nine key claims cancelled.

US 5,820,368 (the '368 patent) is an artifact from Align's litigation history. Originally invented by and assigned to Roger Wolk DDS, it was purchased by OrthoClear in June, 2006 during its litigation with Align. When both parties came to the agreement in September, 2006 which stated that OrthoClear would end its US operations and Align would purchase OrthoClear's IP, Align purchased the '368 patent as part of this agreement. The '368 patent is one of the oldest patents in Align's portfolio which means that it could be part of the rationale that it used in settling with OrthoClear. This is an example of Align's aggressive attitude in obfuscating a portfolio built on weak market controls.

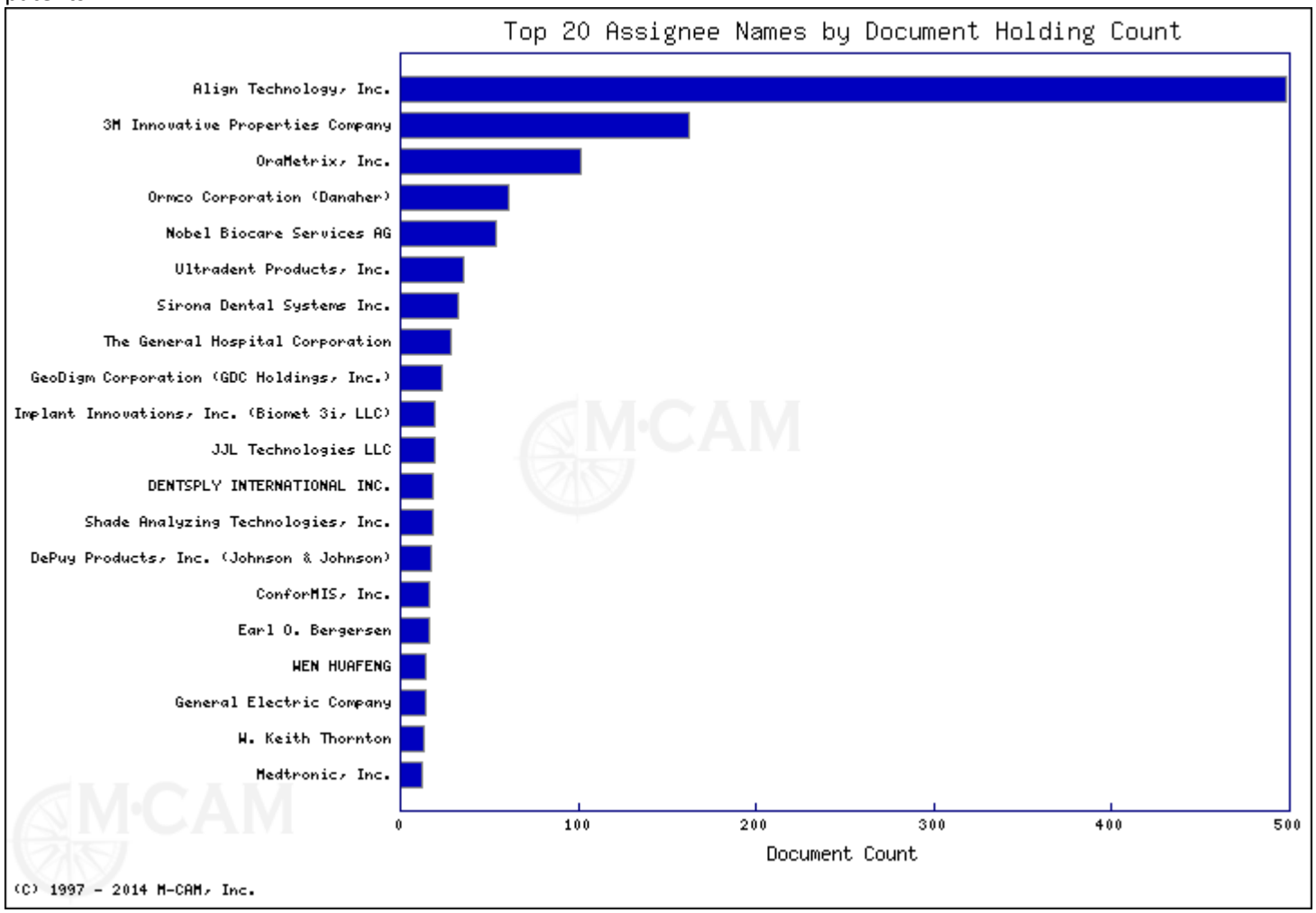
To make a determination about commercial fitness, we assessed Align's US IP portfolio and scored its contents for commercial fitness, using M•CAM's proprietary unstructured data mining algorithms. This assessment measured the commercial strength and transferability of each patent. Commercial patents are linked directly with cash flows and may have a basis for licensing. Non-commercial patents have little chance of being licensed, lack market relevance, or can be liabilities to the holder due to their identification of potential market activities for which their holder has no exclusionary rights.

Over 80% of Align's portfolio scored as non-commercial and less that 20% scored as commercial. Incidentally, the '893 patent scored as being a non-commercial patent even though Align filed 32 divisional patent applications using the '893 patent as the parent. So not only is the '893 patent non-commercial but it may well be a direct liability to the company, as is 38% of the whole portfolio. This exemplifies how the majority of Align's portfolio was built on weak market controls and is subject to fragmentation or invalidation.

[8] http://www.thefreelibrary.com/Align+Technology,+Inc.+Receives+Initial+Office+Action.-a0141592560
[9] http://www.sec.gov/Archives/edgar/data/1097149/000110465909030482/a09-11202_110q.htm

Innovation Space

Below is an exemplary graphical format of the corporate entities in the same innovation space at the '368 and '893 patents.



In demonstrating the adage that *quality* trumps *quantity*, Align has assembled a substantial amount of IP in this space, but its underlying portfolio has terminal weaknesses. That reality plays out in the marketplace as seen in the Danaher settlement.

To find the corporate entities who have the legitimate market protection rights to this business segment, one has to look at the prosecution history of the '893 patent and its tortured past. US 5,017,133 (the '133 patent) was recognized by the examiner as predating the invention of Invisalign®, Align's signature product. Danaher's Ormco was found to have superior market controls as was TP Orthodontics, Inc. and Ortho-Tain, Inc.

Conclusion

Align could find that it has built a castle made of sand once the court case with ClearCorrect has finished. Despite its large portfolio, Align's weaknesses may further jeopardize its business position going forward. Whether from the continuing fallout with Danaher's Ormco or the current conflict with ClearCorrect, Align is being exposed for its compromised positions and runs a serious risk of having the keystones of its attempt at market protection invalidated.

For a more detailed examination of Align Technology's patent portfolio mentioned in this report, please contact us at patentlyobvious@m-cam.com**.**

M·CAM's Patent Glossary

Align Sector: The business sector in which the product(s) resulting from the patent(s) is currently or intended to be sold.

Applicant: The person or corporation that applies for a patent with the intent to use, manufacture or license the technology of the invention; under U.S. law, except in special situations, the applicant(s) must be the inventor(s).

Application: Complete papers submitted to the U. S. Patent and Trademark Office seeking a patent including oath, specification, claims, and drawings. This usually does not signify a Provisional Patent Application, but only a regular patent application.

Art: The established practice and public knowledge within a given field of technology. This also identifies a process or method used to produce a useful result. A term used in consideration of the problem of patentable novelty encompassing all that is known prior to the filing date of the application in the particular field of the invention.

Assignee: The person(s) or corporate body to whom the law grants or vests a patent right. This refers to the person or corporate entity that is identified as the receiver of an assignment.

Business Method Patent: A patent that controls the way a business process is undertaken. The issuance of these patents by the United States Patent and Trademark Office (USPTO) is new and controversial, since many allege that it is unfair to allow a patent on a way of doing business.

Citation: This may include patents or journal articles that the applicant or examiner deems relevant to a current application. A reference to legal authorities or a prior art documentation are examples of a citation.

Claim: The language in a patent application that defines the legal scope of the patent. Most patents have numerous claims. This is typically the single most important section in the application.

Concurrent Art: Concurrent art occurs when related patent applications are being examined by the USPTO at the same time. It is difficult for any company or inventor to know, at the time they file for a patent, whether a "related" patent application exists.

Filing Date: The date when a properly prepared application reaches the patent office in complete form.

Innovation Cycle: A description of the commercialization timeframe for the intellectual property.

Innovation Space: M·CAM's representation of the innovation(s) that occur before, during, and after the pending period of the subject patent. The innovation space is the first place to look for patents that are closely related to the subject patent and that may impact the defensibility of the subject patent or create opportunities for patent licensing.

Issue Date: Not to be confused with the filing date, which is the date the patent application was physically received by the U.S. Patent and Trademark Office. This is the date on which the patent actually issues.

Non-Align Sector: Any sector in which the patent can be used or sold, other than the sector for which the patent or resultant product was invented or intended.

Pod: A group of patents owned by a company that should be treated as a single unit of innovation (e.g., a certain group of patents that comprise a single product or multiple related products).

Prior Art: Any relevant patent that was issued before the patent being analyzed. If this previous patent was specifically mentioned in the new patent's application, the previous patent is referred to as "cited prior art". If it was NOT mentioned, then that previous patent is referred to as "uncited prior art".

Subsequent Art: Any patent that has a filing date with the USPTO that is after the issuance date of the subject patent. This subsequent art patent may or may not have cited (see "Citation" above) the subject patent. As subsequent art represents more recent innovation than the subject patent, it has great potential to shrink the market opportunity for the subject patent.

A Brief Primer on the Patent System

In recent years, the importance of patents and intellectual property rights as an important variable in the marketplace has come to the forefront of the public consciousness as world leaders declare their country's lead in the innovation race. Damaging intellectual property litigation is becoming increasingly common across all industries. This is exacerbated when patent rights are granted for non-novel ideas. A vast amount of precedent innovation is unconsidered by patent-granting authorities in the creation of new IP rights. Patent granting authorities including the United States Patent and Trademark Office (USPTO), European Patent Office (EPO), Japanese Patent Office (JPO), Chinese State Intellectual Property Office (SIPO), Korean Intellectual Property Office (KIPO) and many others are constrained by the use of patent classification systems which are routinely circumvented by patent applicants.

There is a two-way social contract underlying the patent system. In the United States, patent terms are generally limited to 20 years from the date of application. By statutory intention, once a patent has expired, the patent holder loses the right to exclude others from fully utilizing any innovation described in the patent. A large number of patents enter the public domain when they are "abandoned" – when owners discontinue paying patent maintenance fees. Patents also only provide an exclusionary right in the country for which the patent is filed. As demonstrated by the Global Innovation Commons[10] (G.I.C.), using intellectual property available in the public domain eliminates the need to pay licensing fees on those innovations in countries where the patent was never registered, or worldwide, if abandoned.

Patently Obvious® is a report focusing on select groups of patents in order to increase transparency in markets, addressing information asymmetries, and providing a more level playing field for all parties.

[10] http://www.globalinnovationcommons.org/