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Powering Intellectual Property Sharing: How to Make Tesla's Patent Pledge Effective

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POWERING INTELLECTUAL PROPERTY SHARING: HOW TO MAKE TESLA'S PATENT PLEDGE EFFECTIVE

*Benjamin M. Hill**

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I. INTRODUCTION

June 12, 2014, was an important day for the future of battery-powered automobiles. On that day Elon Musk, the CEO of Tesla Motors, surprised the world with a blog post announcing that all of his company's patents were open for anyone to use.¹ Musk stated that Tesla would not "initiate patent lawsuits against anyone who, in good faith, wants to use [their] technology."² On its face this seems like a bizarre decision. Tesla is known for being at the forefront of the electric automobile market by manufacturing electric cars that travel significantly farther on a single charge than any other electric car on the market.³ For a company that's unique and profitable patents were the main differentiator in the automotive market to simply pledge those protections away was a move that came as a shocking surprise to many.

One of the main reasons patents exist is because of the property right protections provided by the federal government to "exclude others from making, using, offering for sale, or selling the invention."⁴ Patents historically have been the foundation for innovation and protecting one's inventions in order to "promote the Progress of Science and useful Arts."⁵ If someone comes up with a novel idea and is granted a patent for that idea by the United States Patent and Trademark Office, then that person may sue, in the appropriate federal court, anyone who infringes on that patent in the U.S. for an injunction or monetary damages.⁶

However, Elon Musk is no entrepreneurial amateur,⁷ and Tesla is not a small company with a limited number of worthless patents.⁸ According to Musk,

¹ See Elon Musk, *All Our Patent Are Belong To You*, TESLA MOTORS (June 12, 2014), <http://www.teslamotors.com/blog/all-our-patent-are-belong-you>.

² *Id.*

³ See Alex Davies & Mike Nudelman, *Here's How Tesla's Model S Compares to Other Top Electric Cars*, BUS. INSIDER (Aug. 16, 2013, 11:18 AM), <http://www.businessinsider.com/electric-car-comparison-chart-2013-8>.

⁴ See 35 U.S.C. § 154 (2012); see also United States Patent and Trademark Office, *General Information Concerning Patents* (Oct. 2015), <http://www.uspto.gov/patents-getting-started/general-information-concerning-patents>.

⁵ U.S. CONST. art. I, § 8, cl. 8.

⁶ See United States Patent and Trademark Office, *General Information Concerning Patents, INFRINGEMENT OF PATENTS* (Oct. 2015), <http://www.uspto.gov/patents-getting-started/general-information-concerning-patents#heading-28>.

⁷ See Ashlee Vance, *Elon Musk, the 21st Century Industrialist*, BLOOMBERG BUS. (Sept. 14, 2012, 6:28 PM), <http://www.bloomberg.com/bw/articles/2012-09-13/elon-musk-the-21st-century-industrialist>; see also Erik Gregersen, *Elon Musk: American Entrepreneur*, ENCYCLOPEDIA BRITANNICA, <https://www.britannica.com/biography/Elon-Musk> (Musk co-founded Zip2 which was eventually acquired by Compaq for more than \$300 million. He then co-founded X.com which would eventually become PayPal and be acquired by Ebay for \$1.5 billion. Musk then went on to help found SolarCity and SpaceX. SpaceX is currently the most well-known private space

opening Tesla's patents was for the "advancement of electric vehicle technology."⁹ Holding onto their patents is akin to "lay[ing] intellectual property landmines behind [them] to inhibit others" and would be acting adversely to their goal of "accelerat[ing] the advent of sustainable transport."¹⁰ Instead of helping encourage innovation and progress, Musk reasoned that patents often "serve merely to stifle progress, entrench the positions of giant corporations and enrich those in the legal profession, rather than the actual inventors."¹¹ Tesla had patented so much of its technology out of a fear that larger auto companies would take advantage of Tesla's advancements and "overwhelm" Tesla with their substantially significant resources.¹² Instead, the large companies average less than 1% of their total vehicle sales in electric and have mostly ignored Tesla's growing impact.¹³ Instead of the traditional "us versus them" model of competition, Musk reasoned that it was instead a battle of everyone against the carbon crisis.¹⁴ According to Musk, Tesla simply cannot produce electric cars fast enough, and so they are hoping that opening their patents will encourage other companies to cut back on their gas engines and instead produce more battery powered vehicles.¹⁵

As recently as 2013, Tesla was a staunch believer in the need for patents to protect its inventions and place in the market.¹⁶ Tesla even filed suits in the past to protect its intellectual property.¹⁷ Given this history and the potential lack of a binding effect Musk's patent pledge holds, many attorneys in the field have been reluctant to advise their clients to proceed with using the patents until a more

exploration company. While Musk did not found Tesla, he has been instrumental in its growth as the CEO. He is currently the largest shareholder in SolarCity, SpaceX, and Tesla).

⁸ See Tesla Motors, *Annual Report for the Fiscal Period ended December 31, 2013*, Form 10-K at 5, <http://ir.teslamotors.com/secfiling.cfm?filingid=1193125-14-69681&cik=> (last visited Sept. 19, 2016) (indicating 203 issued patents and more than 280 pending patent applications). Tesla did not indicate how many patents they hold or have filed for in their 2014 Annual 10-K Report.

⁹ Musk, *supra* note 1.

¹⁰ *Id.*

¹¹ *Id.*

¹² *Id.*

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ Tesla Motors, *supra* note 8, at 22 ("Our success depends, at least in part, on our ability to protect our core technology and intellectual property. To accomplish this, we rely on a combination of patents, patent applications, trade secrets, including know-how, employee and third party nondisclosure agreements, copyright laws, trademarks, intellectual property licenses and other contractual rights to establish and protect our proprietary rights in our technology.").

¹⁷ See Complaint at 2, *Tesla Motors, Inc. v. Fisker Coachbuild, LLC*, No. CIV472032 (Cali. Super. Ct. San Mateo Cnty. Apr. 14, 2008); see also John Markoff, *Tesla Motors Files Suit Against Competitor Over Design Ideas*, N.Y. TIMES (Apr. 15, 2008), http://www.nytimes.com/2008/04/15/technology/15tesla.html?_r=0.

definite defense is in place.¹⁸ If all the goals and dreams of Tesla and other open patents are to be realized, there must be a certain degree of reliability.¹⁹ The inability of innovators to rely on the unofficial promise prevents the field from being able to capitalize on open patents to their full potential. Current patent law does not offer the necessary protections, and as such, a tool from another field should be modified and made available for patents.

Part II of this Note examines the background of Tesla's decision and why that decision is not as effective as Musk believes. Part III discusses some of the more prominent trust institutions currently in place in patent law that may be helpful to Tesla. Part IV will analyze the strengths and weaknesses of each option and ultimately argue that adopting a Creative Commons License for patents will serve as the best trust institution to encourage adoption of Tesla patents to accomplish Musk's goals of a wider market adoption of electric vehicle technology. A brief conclusion follows.²⁰

II. BACKGROUND

A. TESLA'S MOTIVATIONS

Elon Musk disclosed several noble reasons for opening up Tesla's patents, but several commentators have identified alternative reasons that may be more likely. The first and most obvious reason is the chance for market growth for Tesla.²¹

¹⁸ See Ryan Davis, *Devil's In The Details Of Tesla's Open Patent Pledge*, LAW 360 (June 13, 2014, 8:21 PM), <http://www.law360.com/articles/547910/devil-s-in-the-details-of-tesla-s-open-patent-pledge>.

¹⁹ Currently it is unclear whether anyone has utilized any of Tesla's patents. However, it appears that at this point the largest manufacturers have not. See Nikki Gordon-Bloomfield, *Honda, GM, Dismiss Tesla Electric Car Patent Giveaway. Are Others Following Suit?*, TRANSPORT EVOLVED (June 30, 2014), <https://transportevolved.com/2014/06/30/honda-gm-dismiss-tesla-electric-car-patent-giveaway-others-following-suit/>. Additionally, BMW and Volkswagen have announced plans to build a charging network that is incompatible with Tesla's vehicles. See Aaron Tilley, *Striking Back Against Tesla, BMW And Volkswagen Team Up To Build 100 Fast Charging EV Stations*, FORBES (Jan. 22, 2015, 1:00 PM), <http://www.forbes.com/sites/aarontilley/2015/01/22/bmw-volkswagen-100-fast-charging-stations/>.

²⁰ Shortly after this Note was submitted for publication, the *Colorado Technology Law Journal* published Stephanie Vu's note, *Pledging Patents Effectively: Copyright and Open Source as a Framework for Patent Pledges*, 14 COLO. TECH. L.J. 437 (2016). That note covers many of the same issues with Tesla's patent pledge and examines similar possible solutions, but this Note dedicates a substantial amount of focus to examining trust institutions and their possible role in solving coordination problems Musk seeks to avoid. This Note also deals with patent pools and standard setting with RAND policies as possible solutions to the uncertainty created by Tesla's patent pledge which the Vu note does not cover.

²¹ See Jeff Roberts, *What Elon Musk did — and did not — do when he “opened” Tesla's patents*, GIGAOM RESEARCH (June 14, 2014, 5:18 AM), <https://gigaom.com/2014/06/14/what-elon-musk-did-and-did-not-do-when-he-opened-teslas-patents/>.

Currently, the market for pure electric vehicles is extremely small. Electric vehicle sales have tripled since 2013, but they are still less than a third of a percent of the annual U.S. production.²² However genuine Musk's claims are about fighting the carbon crisis through expansion of the electric market, a likely reason is the expansion of the charging station network. Tesla's cars are pure electric cars and not hybrids, and they must use charging stations instead of gas stations. While it is Tesla's goal to put a supercharger charging station within range of 98% of all American drivers by the end of 2015, it is not always so convenient to find Tesla's charging type nearby on the road.²³ As of the writing of this Note, there are 521 Tesla "supercharger" stations with 2,941 "superchargers" in the United States.²⁴ When compared to the nearly 121,446 gas stations in the United States,²⁵ it is easy to see how much more convenient it is to refuel a gas engine. Advancing growth of electric vehicles that utilize the same charging technology from Tesla's patents could make it possible to essentially recruit other manufacturers from across the industry to participate in creating compatible charging stations.²⁶ By encouraging their competitors to develop electric vehicles designed to plug into their electric station network instead of a different charging type, Tesla stands to capitalize on a potential fortune.²⁷

Secondly, Tesla has the opportunity to sell the batteries they manufacture to the potential companies that produce electric cars based on Tesla's patents. Towards the end of 2014, Musk announced the location of Tesla's new "Gigafactory" in Nevada.²⁸ The battery production facility promises to double the global capacity of lithium-ion batteries, and when completed, will be twenty times larger than the largest battery factory currently in production.²⁹ The ability to produce so many of their unique batteries on such a large scale would make Tesla the easy supplier choice for other manufacturers looking to get into

²² See Wharton Sch. of the Univ. of Pa., *What's Driving Tesla's Open Source Gambit?* (June 25, 2014), <http://knowledge.wharton.upenn.edu/article/whats-driving-teslas-open-source-gambit/>.

²³ See Adam Lesser, *Tesla fast charging and why it's getting inconvenient for future EV drivers*, GIGAOM (Aug. 8, 2013, 2:15 AM), <https://gigaom.com/2013/08/08/tesla-fast-charging-and-why-its-getting-inconvenient-for-future-ev-drivers/>.

²⁴ See TESLA SUPERCHARGER, <http://www.teslamotors.com/supercharger> (last visited Sept. 13, 2016).

²⁵ See *Gas Station Indus. Statistics*, STATISTIC BRAIN RESEARCH INST., <http://www.statisticbrain.com/gas-station-statistics/> (last visited Sept. 13, 2016).

²⁶ See William J. Watkins, Jr., *Rethinking Patent Enforcement: Tesla Did What?*, FORBES (July 17, 2014, 1:16 PM), <http://www.forbes.com/sites/realspin/2014/07/17/rethinking-patent-enforcement-tesla-did-what/>.

²⁷ *Id.*

²⁸ See Matthew L. Wald, *Nevada a Winner in Tesla's Battery Contest*, N.Y. TIMES (Sept. 4, 2014), <http://www.nytimes.com/2014/09/05/business/energy-environment/nevada-a-winner-in-teslas-battery-contest.html>.

²⁹ *Id.*

the electric car market. If other car producers adopt Tesla's battery design in creating new electric vehicles, then it is reasonable that they would be potential customers to buy the batteries straight from Tesla instead of trying to produce the batteries themselves in large quantities. This would result in a sizeable source of income directly related to allowing others to copy their technology.³⁰

B. OTHER BENEFITS OF OPENING UP PATENTS

The impact and benefits of Tesla's patent pledge can extend far beyond the obvious immediate benefits to that single company to meeting many of the needs not addressed by the current patent system.³¹ The historical justification for patents was the overall betterment of society by "encouraging inventors to share their innovations with others."³² This involved a tradeoff between the inventors and society.³³ The inventors received an exclusive monopoly over their idea for a period of time, and society received a new and useful invention.³⁴ Over time, the types of patents granted have changed drastically. Early patents often described complete products,³⁵ and inventions like the historical steam engine typically involved licensing only one or two patents.³⁶ Many of today's technologies are infinitely more complex. As such, the finished products we buy can involve hundreds of patents owned by a multitude of individuals and organizations.³⁷

In many high tech industries, a key component of successful Research and Development is the potential for cumulative innovation.³⁸ Cumulative innovation is where a new invention has to rely on preexisting ones instead of

³⁰ See Jerry Hirsch & Tiffany Hsu, *Elon Musk opens up Tesla patents to everyone*, L.A. TIMES (June 12, 2014, 6:28 PM), <http://www.latimes.com/business/autos/la-fi-tesla-open-source-20140613-story.html>; see also Gene Quinn & Steve Brachmann, *Tesla on Patents: Open Source Altruism or Shrewd Business?*, IPWATCHDOG (July 8, 2014), <http://www.ipwatchdog.com/2014/07/08/tesla-on-patents-open-source-altruism-or-shrewd-business/id=50331/>.

³¹ While this Note is not set out to argue against patents as a whole, it would be remiss not to discuss some of the theorized benefits of foregoing patent protection.

³² See Janelle A. Bailey, *ALA: The Building Block of Communal Innovation*, 13 CONN. PUB. INT. L.J. 325, 348 (2014) (quoting Aimee Boss, *The Twenty-First Century Patent System Improvement Act: Is It Really an Improvement?*, 32 J. MARSHALL L. REV. 725, 726 (1999)).

³³ See Michael Mattioli, *Power and Governance in Patent Pools*, 27 HARV. J.L. & TECH. 421, 426 (2014); Grant C. Yang, *The Continuing Debate of Software Patents and the Open Source Movement*, 13 TEX. INTELL. PROP. L.J. 171, 194 (2005).

³⁴ Mattioli, *supra* note 33; Yang, *supra* note 33.

³⁵ Mattioli, *supra* note 33, at 427.

³⁶ See Michael Mattioli, *Communities of Innovation*, 106 NW. U. L. REV. 103, 112 (2012).

³⁷ See Oren Bar-Gill & Gideon Parchomovsky, *The Value of Giving Away Secrets*, 89 VA. L. REV. 1857, 1868 (2003) ("Cumulative innovation is the hallmark of high-tech industries such as computer software, semiconductors, molecular biology, and pharmacology." (footnotes omitted)).

³⁸ *Id.* at 1867.

being independent of previous innovation.³⁹ Given that high tech electric vehicles are still in their infancy compared to traditional gas engines, it is almost a necessity that others have the opportunity to cumulatively innovate Tesla's existing technology. Since Tesla's battery powered vehicles are superior in range to all the present competition,⁴⁰ it would be incredibly difficult for someone else to innovate in that high tech sector independent of previous innovation.⁴¹ No one else has developed a battery as good as Tesla's, and it seems unlikely that anyone will make something better without basing it in part on Tesla's patented technology.

Heller and Eisenberg theorized that such an interweaving of patent coverage may result in a "tragedy of the anticommons" where "multiple owners each have a right to exclude others from a scarce resource and no one has an effective privilege of use."⁴² The transaction costs involved in negotiating the licensing fees with multiple patent owners could very well prevent innovators from pursuing their research and development plans altogether and seriously threaten long-term innovation.⁴³ The growth of the free software movement has shown that reducing those access costs for follow-on innovators has the potential to increase the chances of improvements and broad market adoption.⁴⁴ This is exactly what Tesla wants and needs.

The current "tragedy of the anticommons" for the auto industry is the market for suitable electric vehicles. There are only a handful of major players, and those players control the lion's share of the most successful patents.⁴⁵ By pledging the patents for the most successful batteries and charging stations to date, Tesla is fighting against a "tragedy of the anticommons."

Tesla opening up their patents is good for both the company and the public by allowing others to use and transform the technology,⁴⁶ and recognizing the

³⁹ *Id.*

⁴⁰ Davies & Nudelman, *supra* note 3.

⁴¹ Bar-Gill & Parchomovsky, *supra* note 37.

⁴² See Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCIENCE 698, 698–700 (1998).

⁴³ Mattioli, *supra* note 33, at 427.

⁴⁴ Bar-Gill & Parchomovsky, *supra* note 37, at 1870–71.

⁴⁵ See Steve Brachmann, *In the global race for Electric Vehicle innovation, America tops Japan for first place*, IPWATCHDOG (Sept. 2, 2015), <http://www.ipwatchdog.com/2015/09/02/electric-vehicle-innovation-america-tops-japan/id=61178/> (noting that together Ford and GM own almost one-third of the electric vehicle patents in the U.S.); see also Maulin Shah, *Auto Industry May Ignore Tesla Patents*, PATENTVUE (June 26, 2014, 11:58 AM), <http://patentvue.com/2014/06/26/auto-industry-may-ignore-tesla-patents/> ("[W]hile Tesla may not have much competition in the commercial marketplace for purely electric vehicles, automotive giants such as General Motors, Toyota, Honda, Ford, Nissan, and Daimler have all amassed significant patent portfolios related to electric vehicle technology.").

⁴⁶ Bailey, *supra* note 32, at 348.

need for communal innovation allows for a better realization of the future value when dealing with a high tech sector of a traditional good.⁴⁷ In such a situation, disclosing one's patents benefits both the original inventor and society,⁴⁸ but maintaining strict control over those patents will serve as a hindrance to such goals. Follow-up innovators are given the chance to transform the product into something that fulfills the growing need of society.⁴⁹

C. ISSUES WITH TESLA'S PLEDGE

As beneficial as the open patents are to Tesla, the electric car market, and possibly even the world, there are still issues for a company who wishes to use Tesla's patents. Currently there are scant legal protections for other manufacturers who may wish to take Musk up on his offer.⁵⁰ There is a potential fear that Tesla could take advantage of the expanded market for batteries and charging stations before renegeing on their promise of non-litigation and suing the competitors for large settlements.⁵¹ If companies create new products based on Tesla's technology, there is a substantial chance that they could still be sued.⁵² Tesla has not shied away from using its legal protections to protect its intellectual property. As recently as 2008 Tesla sued a manufacturer over its use of trade secrets and confidential information.⁵³ Because of this risk, a company must have a great deal of trust in Elon Musk's promise before making the decision to invest costly and valuable research and development funds in such a venture.

Some critics have been quick to point out that saying Tesla "opened" their patents is quite simply a misnomer.⁵⁴ When the U.S. Patent and Trademark Office grants a patent, that very patent is published for the entire world to see.⁵⁵

⁴⁷ Bar-Gill & Parchomovsky, *supra* note 37, at 1868.

⁴⁸ *Id.* at 1876.

⁴⁹ Musk, *supra* note 1. In this case Elon Musk has identified electric non-carbon emitting vehicles as the growing need for society.

⁵⁰ *Id.*

⁵¹ Quinn & Brachmann, *supra* note 30.

⁵² Roberts, *supra* note 21.

⁵³ See Complaint, *supra* note 17 (Tesla sued Fisker Coachbuild, a formerly retained automobile manufacturer, for allegedly using Tesla's trade secrets and confidential information in designing their own electric vehicle); see also John O'Dell, *Tesla Ordered To Pay Fisker \$1.14 Million After Losing Trade Secrets Case*, EDMUNDS (Dec. 4, 2008), <http://www.edmunds.com/autoobserver-archive/2008/12/tesla-ordered-to-pay-fisker-114-million-after-losing-trade-secrets-case.html> (noting that eventually an arbitrator ruled in favor of Fisker Coachbuild and awarded them \$1.14 million in legal fees).

⁵⁴ Roberts, *supra* note 21.

⁵⁵ *Id.*

In exchange for publishing their intellectual secret, the Patent Office grants a narrow monopoly to the inventor of that item.⁵⁶

This monopoly is not exactly something that Tesla “gave away” either. Without entering into a contractual licensing agreement or other formal assignment with the specific user of Tesla’s patents, it still retain, all of its rights and enforcement opportunities.⁵⁷ Since Tesla has not fully ceded its ownership rights to the public domain, it occupies a middle ground between giving them away and retaining full rights.⁵⁸

Musk’s blog post on the company website lacks all the formalities of a contractual agreement. While Google has a similar, yet untested, open patent pledge for cloud-related patents, it appears to be much more formal and was most likely drafted by an attorney instead of the CEO.⁵⁹ Such formality and boilerplate language makes it more likely to be upheld by a court as a valid contract. Unlike the pledges of other large companies, Musk’s statements lack an intention for his representations to be held as legally binding or irrevocable.⁶⁰ This means that Tesla may be able to withdraw or change its “open source” patent policy at any time.⁶¹

Furthermore, Musk stipulated in his blog post that Tesla would not seek patent infringement litigation against those who used the patents “in good faith.”⁶² While this seems to give Tesla a little more flexibility⁶³ in preventing patent abuse, it also must cause the potential user to pause. What constitutes “good faith” to Elon Musk? Keep in mind that without some protective instrument or license in place, Tesla could very well sue even if the user had the best of faith in using the patent. So far Musk’s clarifications of “good faith” have not been overly exhaustive or helpful. He was quoted as saying, “[w]e would not want someone to mimic our car in such a way to deceive customers into whether it is a Tesla,” and that he is “looking for common sense and fairness.”⁶⁴ While not allowing companies to pass themselves off as Tesla was

⁵⁶ See Yuichi Watanabe, *Patent Licensing and the Emergence of A New Patent Market*, 9 Hous. Bus. & Tax L.J. 445, 463 (2009).

⁵⁷ *Id.* at 463–64.

⁵⁸ See Jorge L. Contreras, *Patent Pledges*, 47 ARIZ. ST. L.J. 543, 545 (2015).

⁵⁹ See Google, *Open Patent Non-Assertion Pledge*, <http://www.google.com/patents/opnpledge/pledge/> (last visited Sept. 13, 2016).

⁶⁰ See Richard Johnson & Michael Damiani, *Tesla's patent pledge: is it enough?*, LEXOLOGY (July 23, 2014), <http://www.lexology.com/library/detail.aspx?g=bb00cbc5-dd08-415e-9d9a-c9020e1943b1>.

⁶¹ See *id.*

⁶² Musk, *supra* note 1.

⁶³ See Kirsten Korosec, *The one asterisk on Tesla's patent giveaway*, FORTUNE (June 13, 2014, 4:37 PM), <http://fortune.com/2014/06/13/the-one-asterisk-on-teslas-patent-giveaway/>.

⁶⁴ See Jerry Hirsch, *Musk opens up Tesla car's patents to others*, SEATTLE TIMES (June 12, 2014, 6:32 PM), <http://www.seattletimes.com/business/musk-opens-up-tesla-carrsquot-patents-to-others/>.

obvious and not much of a legitimate concern to potential battery innovators given all the retained trademark protections, the “common sense and fairness” is still a bit of a mystery. In another attempt to placate the possible concerns over the “good faith” language, Musk indicated that Tesla would be willing to enter into simple agreements with companies that are worried about unintentionally breaching that clause.⁶⁵

Another aspect of Musk’s “good faith” involves how the companies interact when using one another’s patents. In a conference call, he made it clear that just because Tesla was making its technology freely available, it did not expect other manufactures to follow suit if Tesla wanted to use their patented technology.⁶⁶ That being said, if another company and Tesla are using each other’s similarly valued technology, he would not expect the other to sue or collect licensing fees.⁶⁷

If Tesla does eventually decide to sue someone, how might the court rule? At this point no one is exactly sure. Nathaniel W. Lucek, an attorney specializing in patent law,⁶⁸ has briefly written on two possible ways a company could successfully defend against an infringement suit by Tesla.⁶⁹ If a company was able to create technological improvements based on Tesla’s patents, they could very well obtain patents for themselves. Musk has already indicated that he would expect the company to license the improvements back to Tesla on “good faith grounds,”⁷⁰ but there is no guarantee that this would happen.

Lucek also identified a laches defense as a possibility.⁷¹ Essentially the infringer would have to argue that based on the amount of time Tesla takes to file the suit after learning of the infringement that they “unreasonably and inexcusably delayed filing suit and that the delay resulted in material prejudice to the defendant.”⁷² If it took Tesla six years to bring the suit after actual or constructive knowledge of the infringement, laches would be presumed by the

⁶⁵ See Klint Finley, *With Patent Giveaway, Tesla Shows Silicon Valley What Ingenuity Means*, WIRED (June 13, 2014, 6:30 AM), <http://www.wired.com/2014/06/tesla-patents/>.

⁶⁶ See Mark Rogowsky, *Patent Medicine: Tesla Makes Its Technology Available To Everyone, For Free, In Bold Move For The Planet*, FORBES (June 12, 2014, 2:11 PM), <http://www.forbes.com/sites/markrogowsky/2014/06/12/patent-medicine-tesla-makes-its-technology-available-to-everyone-for-free-in-bold-move-for-the-planet/#6aa78f131B0f>.

⁶⁷ See *id.*

⁶⁸ See Nathaniel W. Lucek, HODGSON RUSS LLP, <http://www.hodgsonruss.com/professionals-Nathaniel-Lucek.html> (last visited Sept. 19, 2016).

⁶⁹ See Nathaniel W. Lucek, *Take Off Every Zig: The Risk in Tesla’s “All Our Patent Are Belong to You” Message*, CLEAN AND GREEN LAW (July 11, 2014), <http://www.cleanandgreenlaw.com/2014/07/11/tesla-patents/>.

⁷⁰ Rogowsky, *supra* note 66.

⁷¹ Lucek, *supra* note 69.

⁷² *Ecolab, Inc. v. Envirochem, Inc.*, 264 F.3d 1358, 1371 (Fed. Cir. 2001) (citing *Wanlass v. Gen. Elec. Co.*, 148 F.3d 1334, 1337 (Fed. Cir. 1998)).

court.⁷³ Such a length of time would not be impossible.⁷⁴ Tesla could be precluded from recovering damages for infringement prior to the lawsuit or from obtaining an injunction on products sold prior to the lawsuit if the laches defense is successful.⁷⁵

The doctrine of equitable estoppel could also serve as a complete bar to a potential claim by Tesla.⁷⁶ In a three part test the defendant must prove that

- 1) the patentee, through misleading conduct, leads the alleged infringer to reasonably infer that the patentee does not intend to enforce its patent against the alleged infringer, 2) the alleged infringer relies on that conduct, and 3) due to its reliance, the alleged infringer will be materially prejudiced if the patentee is allowed to proceed with its claim.⁷⁷

Musk's blog post could be viewed as misleading to the infringer, and the commencement of research and development would satisfy the reliance requirement.⁷⁸

Ultimately, there is no clear cut answer to what Tesla might do in the future, or how the court would handle the situation if they did choose to litigate. How such informal patent pledges will play out in the courts is uncertain, and attempts at patent reform have been stymied.⁷⁹ Without further steps Musk's patent pledge is likely to be viewed as insufficient motivation to take the risk of willful patent infringement.

III. TESLA'S OPTIONS

Having established that Tesla's voluntary pledge not to assert their patent rights against good faith users is insufficient to encourage most individuals or companies to actually take that risk and use them, we must now examine what options Tesla has now to concretely assure other manufactures of their nonlitigious intentions. Despite calls for patent reform, currently there is no

⁷³ *Id.*

⁷⁴ Lucek, *supra* note 69.

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ *See Ecolab, Inc.*, 264 F.3d at 1371 (citing *Scholle Corp. v. Blackhawk Molding Co.*, 133 F.3d 1469, 1473 (Fed. Cir. 1998)).

⁷⁸ Lucek, *supra* note 69.

⁷⁹ Finley, *supra* note 65.

official patent where one can selectively file for certain protections that would meet the desires of Elon Musk and Tesla.⁸⁰

To fill this void the private market has utilized a myriad of different tools to allow for the open sharing of protected information.⁸¹ This Note will by no means attempt an exhaustive review of all the different possibilities. Instead it will examine a few of the major tools of particular use to Tesla and its goals. Each tool will be discussed in broad generalizations that obviously may not be applicable in every circumstance.

A. OPEN SOURCE

Although still a recent development in the grand scheme of intellectual property law, the Open Source movement has developed into a useful tool in copyright.⁸² Over the last thirty years there have been multiple different approaches to Open Source licensing that all have their unique characteristics.⁸³ Much like Musk's views on Tesla's car batteries, the Open Source movement desires to "foster the reuse of available resources instead of forcing different developers to 'reinvent the wheel.'"⁸⁴

Open Source originated in the copyright context of developing software.⁸⁵ Because software is written by humans but carried out by computers, software involves two sets of languages or "codes."⁸⁶ The form most often distributed is

⁸⁰ See Gideon Parchomovsky & Michael Mattiol, *Partial Patents*, 111 COLUM. L. REV. 207, 208 (2011) (suggesting patent reform by adding two new types of patents to "spur innovation through information sharing." First is a "quasi-patent" where the patent holder could only assert their rights against direct competitors. Second is a "semi-patent" whose grant would be conditioned on the applicant agreeing to publish all relevant research and information.).

⁸¹ See Clark D. Asay, *Enabling Patentless Innovation*, 74 MD. L. REV. 431, 442 (2015).

⁸² *Id.* at 442.

⁸³ See *Licenses by Name*, OPEN SOURCE INITIATIVE, <http://opensource.org/licenses/alphabetical> (last visited Sept. 19, 2016) (listing over seventy different approved Open Source Licenses for individuals and companies to use).

⁸⁴ See Robert Feldman & Kris Nelson, *Open Source, Open Access, and Open Transfer: Market Approaches to Research Bottlenecks*, 7 NW. J. TECH. & INTELL. PROP. 14, 23 (2008).

⁸⁵ See Graham Lawton, *The Great Open Source Giveaway*, ALTERNET (June 30, 2002), http://www.alternet.org/story/13494/the_great_open_source_giveaway ("The open source movement originated in 1984 when computer scientist Richard Stallman quit his job at MIT and set up the Free Software Foundation. His aim was to create high-quality software that was freely available to everybody. Stallman's beef was with commercial companies that smother their software with patents and copyrights Stallman's move resonated round the computer science community and now there are thousands of similar projects.").

⁸⁶ Joseph Scott Miller, *Allchin's Folly: Exploding Some Myths About Open Source Software*, 20 CARDOZO ARTS & ENT. L.J. 491, 494 (2002).

the “object code” written in a series of ones and zeros.⁸⁷ The object code is the language that can be read by computer, but which is practically unintelligible to humans.⁸⁸ If human programmers wanted to modify the software in any way, they would need the “source code” from the original developer.⁸⁹ The original author of the software owns the copyright on both the source code and object code,⁹⁰ and they could choose to release only the object code while withholding the source code. Many software developers do this on a regular basis, or in the alternative, they will license out their source code.⁹¹ However, similar to Elon Musk’s views on patents, software developers identified that there is a certain advantage to allowing others to modify one’s work.⁹²

Developers who wish to allow others to utilize their copyrighted code would be ill-advised to simply renounce their copyrights and release the code into the public domain. While others would now be free to copy and improve the software without any permission, they would now be able to claim to have created a derivative work.⁹³ This means that the modifier would now have an independent copyright and could very well choose to exercise that copyright and prevent others from modifying.⁹⁴ Software that was originally intended to be shared with everyone could quickly be closed off, and the Open Source Project would promptly become a failure.⁹⁵

To prevent this from happening, Open Source Licenses were created.⁹⁶ The Open Source License is a modification of the traditional copyright. The copyright owners retain a certain degree of control instead of just disclosing the information to the public domain.⁹⁷ The license allows the author to open their creation to the public while still exercising certain control rights to ensure it stays open for everyone.⁹⁸ The way this is accomplished is by requiring the second comer to leave their modifications and improvements as open as the original work.⁹⁹ This requirement only applies to the derivative portions that

⁸⁷ See Robin Feldman, *The Open Source Biotechnology Movement: Is It Patent Misuse?*, 6 MINN. J.L. SCI. & TECH. 117, 131 (2004).

⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ Miller, *supra* note 86.

⁹¹ Feldman & Nelson, *supra* note 84, at 22–23.

⁹² Feldman, *supra* note 87 (such as a much faster pace to “fix bugs, provide upgrades, and modify the program for individual requirements”).

⁹³ *Id.* at 132.

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ *Id.*

are distributed, not the entire work that may incorporate the Open Source License or anything used internally.¹⁰⁰

Although the Open Source movement originated in copyright law, it has migrated over to patent law, most notably in the area of biotechnology.¹⁰¹ Even though patent law and copyright law have their differences, an Open Source Patent License can accomplish many of the same functions as its copyright counterpart.¹⁰² The Open Source Patent License would simply be “a contract that obligates the licensee (or user) of patented material to share that material and improvements in a certain way, and in some instances, obligates any further innovations or sublicensing to be conducted in the same manner.”¹⁰³ To reach Tesla’s goals all they would have to do at this point would be to license their patents on certain traditional Open Source Terms: non-exclusivity and royalty-free.¹⁰⁴ That license would obligate any licensees to share their improvements and modifications of the battery technology while still being royalty free.

B. PATENT POOLS AND STANDARD SETTING

A second potential option to encourage the adoption of Tesla’s battery technology would be the creation of a patent pool. Patent pools have been around since 1856 and have even been utilized in the automobile industry since 1900.¹⁰⁵ Patent pools usually involve a well-defined field¹⁰⁶ or complementary technology.¹⁰⁷ In these instances, competitors could potentially exercise their patent rights to block competing innovation.¹⁰⁸ Simply put, multiple owners of intellectual property make an agreement to dump an aggregation of their patents into a “pool.”¹⁰⁹ This “pool” is a central entity that handles the

¹⁰⁰ Miller, *supra* note 86, at 500.

¹⁰¹ Feldman, *supra* note 87, at 117–18.

¹⁰² *Id.* at 135 n.95.

¹⁰³ See Rebecca Goulding, Emily Marden, Rachael Manion & Ed Levy, *Alternative Intellectual Property for Genomics and the Activity of Technology Transfer Offices: Emerging Directions in Research*, 16 B.U. J. SCI. & TECH. L. 194, 206 (2010).

¹⁰⁴ *Id.* at 207.

¹⁰⁵ Daniel S. Sternberg, *A Brief History of RAND*, 20 B.U. J. SCI. & TECH. L. 211, 217–19 (2014) (however the Association of License Automobile Manufacturers was quickly dissolved after losing a patent infringement suit against Henry Ford when Ford was allowed to continue manufacturing without membership and access to the pool’s patent).

¹⁰⁶ See Antony Taubman, *Sharing Technology to Meet a Common Challenge: Navigating Proposals for Patent Pools, Patent Commons and Open Innovation*, WIPO MAGAZINE 4 (Apr. 2009), <http://webcitati on.org/5u1TOWHBI>.

¹⁰⁷ See Chase A. Marshall, *A Comparative Analysis: Current Solutions to the Anticommons Threat*, 12 J. HIGH TECH. L. 487, 501 (2012).

¹⁰⁸ *Id.*

¹⁰⁹ See CYNTHIA CANNADY, TECHNOLOGY LICENSING AND DEVELOPMENT AGREEMENTS §§ 1-8, 8.1 (ed. 2015).

licensing of the contributed patents.¹¹⁰ Once in the pool, the related patents lose certain individual property characteristics and instead take on a collective character.¹¹¹ The pool members share the patents in the pool, and allow outsiders to use the pool on certain licensing terms.¹¹² By joining together, they can all benefit by “integrating complementary technologies, reducing transaction costs, clearing blocking positions, and avoiding costly litigation.”¹¹³

The accessibility of the pool to non-members depends on whether the pool is “open” or “closed.”¹¹⁴ In a “closed” pool, only the members are able to utilize each other’s patents in the pool.¹¹⁵ This allows the members to maintain the exclusive nature of their patent rights and benefits with regards to everyone not in the pool.¹¹⁶ Limiting the patent sharing to a “closed” pool is often preferred because the members have more control and they have already consented to the other members use.¹¹⁷ In the alternative, an “open” pool is one in which any interested party has access to the technologies covered by the pool.¹¹⁸ While this access still is not as inclusive as membership to the pool, the non-members are often granted a non-exclusive license with a pre-determined fee and royalty percentage.¹¹⁹

Though it does not appear Tesla would be interested in a licensing fee or royalty percentage,¹²⁰ it seems fairly clear that they would prefer the open pool for the simple reason that open pools reach a larger audience of innovators because of the less restricted access to technology.¹²¹ However, this may prove

¹¹⁰ Robert P. Merges, *Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 CALIF. L. REV. 1293, 1340 (1996).

¹¹¹ CANNADY, *supra* note 109, § 8.1 (comparing patent pools to water in a pool to complete the metaphor).

¹¹² *Id.*

¹¹³ Marshall, *supra* note 107 (quoting Robert S. Chaloupka, CORP. COUNSEL’S GUIDE TO INTELL. PROP. § 15:22 (2011–2012 update)) (internal quotation marks omitted).

¹¹⁴ *Id.* at 509–10.

¹¹⁵ *Id.*

¹¹⁶ *Id.* However this could lead to anticompetitive accusations. See Feldman, *supra* note 87, at 166 (discussing collusion in patent pools to restrain price or divide markets or coordinate to exclude competition as concerns for anticompetitive and potentially illegal behavior).

¹¹⁷ Marshall, *supra* note 107, at 509.

¹¹⁸ Taubman, *supra* note 106.

¹¹⁹ Marshall, *supra* note 107, at 510.

¹²⁰ See Elaine Sullivan, *Elon Musk Speech on why Hydrogen fuel cell is dumb* (Jan. 22, 2017), <https://www.youtube.com/watch?v=1ruYW1gii5U&feature=youtu.be>, at 3:20 (Press Video, *Elon Musk on why Hydrogen fuel cell is dumb* (Jan. 14, 2015, 3:20), <http://hdwon.com/video/Elon-Musk-on-why-Hydrogen-fuel-cell-is-dumb-1312015/7ALLwLdK-5U> (displaying press conference where Musk said that not having a licensing process was “better because then we don’t need to get into any kind of discussions”).

¹²¹ Marshall, *supra* note 107, at 510. That being said, the licensing and royalties are not so simply cut between open and closed pools. There are simple and sophisticated pools that range

to be a point of contention with other potential members who do not fully buy into Musk's views on patents.

One particular feature of patent pools is the ability to come together to set standards in certain areas of technology. Such standard-setting organizations have been at the heart of many technologies the average consumer uses on a daily basis.¹²² While it is completely possible to have a patent pool without standard-setting,¹²³ the very nature of pooling patents together tends to involve the strategy of adopting one standard technology for everyone in the pool to adopt without infringing on one another's patents.¹²⁴ Setting a standard allows an industry to develop a platform of interoperable and related yet competitive technologies.¹²⁵

Once the different organizations come together and set the standard for a future area of technology while disclosing their relevant intellectual property, they usually request that their members agree to license their patents on RAND (reasonable and non-discriminatory) terms.¹²⁶ These RAND commitments are often thought of as a way to prevent market abuse.¹²⁷ When one company's patented technology is chosen for the standard, their patents become essential since their use is required to meet the standard.¹²⁸ The RAND licensing terms are meant to prevent that company from taking advantage of their new market power by refusing to license or charging excessively high rates.¹²⁹ Similar to how membership in a patent pool allowed the members to utilize the patents without fear of litigation, the RAND promise assures standard adopters the right to use the patented technology without fear of the patent holder's revocation.¹³⁰ While there are arguments that the lack of objective definitions

from no royalties to royalties based on relative value of used intellectual property or royalties from third parties. See Feldman, *supra* note 87, at 166.

¹²² CANNADY, *supra* note 109 (discussing how standard-setting organizations have helped produce USB, MPEG, and mobile networks for cellphones); see also Sternberg, *supra* note 105, at 213 (“[A]lmost every electronic device on the market implements at least one industry standard.”).

¹²³ Many authors treat Standard Setting Organizations as completely separate entities from Patent Pools. See Sternberg, *supra* note 105, at 223.

¹²⁴ CANNADY, *supra* note 109.

¹²⁵ *Id.*

¹²⁶ See Anne Layne-Farrar, A. Jorge Padilla & Richard Schmalensee, *Pricing Patents for Licensing in Standard-Setting Organizations: Making Sense of FRAND Commitments*, 74 ANTITRUST L.J. 671, 672 (2007) (explaining that there is no universally agreed upon operational definition of the commitment). Europe employs FRAND commitments with the “F” standing for “fair,” but there is no substantial difference between the two.

¹²⁷ *Id.*

¹²⁸ *Id.*

¹²⁹ *Id.*

¹³⁰ See Joseph Scott Miller, *Standard Setting, Patents, and Access Lock-In: RAND Licensing and the Theory of the Firm*, 40 IND. L. REV. 351, 389 (2007).

concerning RAND is a stumbling block, it still functionally guarantees the adopters access to the standard.¹³¹

C. CREATIVE COMMONS

Founded in 2001, Creative Commons is a non-profit organization that has created several different licenses of which copyright users can take advantage.¹³² The Creative Commons license was modeled after the Open Source License, but was intended for all the different copyrighted materials not related to the software field including music, film, texts, images, and many other creative works.¹³³ Given the technical requirements and unique nature of software, the open source license was not so easily applicable to the other types of copyrighted materials, and Creative Commons Licenses are likewise not designated for software use.¹³⁴

When the founders of Creative Commons came together, they identified a need to develop a fine-tuned workable model by which authors could choose how to share their works in a still somewhat limited manner without fully giving their work over to the public domain.¹³⁵ The goal was to still rely on the protections granted by copyright law while replacing “all rights reserved” (the traditional formal language of copyright notice)¹³⁶ with “some rights reserved.”¹³⁷ Hopefully this would reduce the transaction costs inherent to licensing out one’s works on an individual basis. Instead of requiring desired users to contact every author individually to set up a licensing agreement involving royalties, terms of use, and lawyers, the author could instead announce to the entire world that anyone could use their works royalty-free, provided the users did not violate the terms of the license.¹³⁸

¹³¹ *Id.* at 358.

¹³² *See History*, CREATIVE COMMONS, <https://creativecommons.org/about/history> (last visited Sept. 14, 2016).

¹³³ *See* TILL KREUTZER, OPEN CONTENT – A PRACTICAL GUIDE TO USING CREATIVE COMMONS LICENCES 12 (Jan Engelmann et al. eds., 2014), https://www.unesco.de/fileadmin/medien/Dokumente/Kommunikation/Open_Content_A_Practical_Guide_to_Using_Open_Content_Licences_web.pdf.

¹³⁴ *Id.*

¹³⁵ *See* JAMES BOYLE, THE PUBLIC DOMAIN: ENCLOSING THE COMMONS OF THE MIND 182–83 (2008), <http://thepublicdomain.org/thepublicdomain1.pdf>.

¹³⁶ *See* Arnoud Engelfriet, *The phrase “All rights reserved,”* IUS MENTIS (May 25, 2006), <http://www.iusmentis.com/copyright/allrightsreserved/>.

¹³⁷ BOYLE, *supra* note 135, at 182.

¹³⁸ *Id.* at 181. This “announcement to the world” includes the “cc” emblem on all of one’s copyrighted material or other icons indicating which rights are still reserved for the author. Additionally, the licenses can be tagged digitally so that search engines can detect exactly what freedoms have been given.

Creative Commons licenses come in a variety of formats depending on which rights the author wants to give away and which rights they want to keep.¹³⁹ This flexibility is one of the key benefits of the license. Currently, there are six different licenses that incorporate four possible conditions an author can select.¹⁴⁰

The first and most liberal condition is “Attribution.” Under this condition, the licensee can use, copy, distribute, display, perform, and make derivative works off of the original so long as they give credit to the original author and point to the original source so that others can find it.¹⁴¹ Since 2004, this condition has become a part of every Creative Commons License.¹⁴² The second condition is “NonCommercial” under which users are prohibited from using the work commercially. The licensee still has all the wide freedoms of use, but not for a commercial use.¹⁴³ This condition is adopted by nearly three quarters of licensees. The third condition is “No Derivatives.” This allows the licensee to copy, distribute, and display the licensed works but only the verbatim original.¹⁴⁴ Licensees are prohibited from creating or using derivative works based on the original.¹⁴⁵ The last condition is the “ShareAlike” condition. This condition is most comparable to the Open Source License condition for software.¹⁴⁶ It requires the subsequent users to permit the use of their derivative works under the same terms chosen by the original creator.¹⁴⁷ This condition prevents anyone from taking the freely distributed work, modifying it, and then keeping it for exclusive or proprietary use.¹⁴⁸ Currently, the “ShareAlike” condition has been credited the most for creating an intellectual property commons that more fully perpetuates the sharing of material.¹⁴⁹ The simple language and flexible options for the standardized license are advantageous to both the original author and any subsequent

¹³⁹ See *About the Licenses*, CREATIVE COMMONS, <http://creativecommons.org/licenses> (last visited Sept. 20, 2016).

¹⁴⁰ *Id.*

¹⁴¹ See Eric E. Johnson, *The Economics and Sociality of Sharing Intellectual Property Rights*, 94 B.U. L. REV. 1935, 1979 n.240 (2014).

¹⁴² See Glenn Otis Brown, *Announcing (and explaining) our new 2.0 licenses*, CREATIVE COMMONS (May 25, 2004), <http://creativecommons.org/weblog/entry/4216>.

¹⁴³ Johnson, *supra* note 141, at 1979.

¹⁴⁴ *Id.*

¹⁴⁵ *Id.*

¹⁴⁶ *Id.*

¹⁴⁷ See Lynn M. Forsythe & Deborah J. Kemp, *Creative Commons: For The Common Good?*, 30 U. LA VERNE L. REV. 346, 357 (2009).

¹⁴⁸ See Zachary Katz, *Pitfalls of Open Licensing: An Analysis of Creative Commons Licensing*, 46 IDEA 391, 396–97 (2006).

¹⁴⁹ *Id.*

licensee.¹⁵⁰ Both parties have a relatively clear understanding of exactly what they are agreeing to without requiring any actual contract or legal interpretation.¹⁵¹

Given the lack of domestic cases concerning the Creative Commons license, there is a degree of uncertainty concerning how the court would interpret the license. Scholars have identified three different possibilities: under contract law, under property law, and under a hybrid of the two.¹⁵² Under a contract law view, the plain terms of the license would govern the use of the licensed patent. An issue with that is the lack of clarity surrounding the terms utilized by Creative Commons in their licenses. While the language is simple and easy to understand to the average consumer, the indefinite nature of the terms could result in great uncertainty as to how the licensor intended those terms to be interpreted.¹⁵³

Under a contract law interpretation, the license would be enforceable against third parties under the “shrink-wrap” nature of licenses.¹⁵⁴ *ProCD, Inc. v. Zeidenberg*¹⁵⁵ is the seminal case setting the scope of a license for a non-negotiated contract. Much like the parties in that case, use of Tesla's patents would make the terms of the license enforceable upon the third party.

*Drauglis v. Kappa Map Group LLC*¹⁵⁶ is one of the few domestic cases to deal with the Creative Commons License. In that case, the D.C. District Court did not question the validity of the license even though it was a matter of first impression. It addressed the Creative Commons License under the contract analysis by simply stating that “[a] license is governed by the laws of contract” so long as it does not offend any canons of copyright law.¹⁵⁷

Others have suggested that the injured party would not attempt to enforce a contract right but rather a property right, given that the statutory protections are in fact based on property rights rather than private contracting.¹⁵⁸ Under this view, an intellectual property license is not a contract; it is instead a unilateral legal action that “defines the boundaries of legitimate use.”¹⁵⁹ In the

¹⁵⁰ KRUEZER, *supra* note 133, at 15.

¹⁵¹ *Id.*

¹⁵² See Adrienne K. Goss, Note, *Codifying a Commons: Copyright, Copyleft, and the Creative Commons Project*, 82 CHL-KENT L. REV. 963, 984–87 (2007).

¹⁵³ *Id.* at 982–83.

¹⁵⁴ *Id.* at 985; see also Niva Elkin-Koren, *Panel I: Intellectual Property and Public Values: What Contracts Cannot Do: The Limits of Private Ordering in Facilitating a Creative Commons*, 74 FORDHAM L. REV. 375, 406 (2005).

¹⁵⁵ 86 F.3d 1447 (7th Cir. Wis. 1996).

¹⁵⁶ 128 F. Supp. 3d 46 (D.D.C. 2015).

¹⁵⁷ *Id.* at 11–12 (citing *Jazz Photo Corp. v. Int'l Trade Comm'n*, 264 F.3d 1094, 1107 (Fed. Cir. 2001)).

¹⁵⁸ Elkin-Koren, *supra* note 154, at 403–04.

¹⁵⁹ *Id.* at 404–05.

event of a potential breach, the license would default back to its standard copyright (or patent for Tesla) norms.¹⁶⁰

However, basing the interpretation solely on property rights does not explain how the licensor can expand their rights beyond what the copyright/patent affords.¹⁶¹ There is no right to attribution in the copyright statutes, yet the attribution license is one of the most used Creative Commons Licenses.¹⁶² Intellectual property rights usually prevent others from using one's works without permission. A purely property-based view does not explain how the license instead can create an affirmative duty to a third party.

The Creative Commons License can best be explained by a quasi-hybrid concept of contract and real property known as an "intellectual easement."¹⁶³ Under this easement approach, the intellectual property owner still retains control over the essential property but the licensee can depend on limited rights of use.¹⁶⁴ Some type of hybrid framework may provide the adequate enforcement of both benefits and compliance against third parties.¹⁶⁵

IV. MAKING TESLA'S CHOICE

A. OPEN SOURCE PATENTS

An Open Source License could meet all of Musk's goals when he announced the opening of the patents. In fact, he even referenced open source in his blog post.¹⁶⁶ The license both allows Musk to protect his company and brand from individuals who would not use Tesla's technology in "good faith" while still encouraging market adoption and improvements and avoiding the roadblocks patent law can create. The wide acceptance of the Open Source License can give innovators the necessary trust to take the leap of faith and utilize Tesla's patents.¹⁶⁷

Currently, biotech research has been the main field to try to apply the open source software movement to patent law and could potentially serve as a model

¹⁶⁰ Goss, *supra* note 152, at 986 (citing Severine DeCollier, *Open Source and Copyleft: Authorship Reconsidered?*, 26 COLUM. J.L. & ARTS 281, 286 (2003)).

¹⁶¹ Elkin-Koren, *supra* note 154, at 405.

¹⁶² *Id.*

¹⁶³ Goss, *supra* note 152, at 986 (quoting R. Polk Wagner, *Information Wants to Be Free: Intellectual Property and the Mythologies of Control*, 103 COLUM. L. REV. 995, 1032 (2003)).

¹⁶⁴ *Id.* at 987.

¹⁶⁵ *Id.*

¹⁶⁶ Musk, *supra* note 1.

¹⁶⁷ See Alan Ho, *Enterprise adoption of open source is on the rise*, ZDNET (Nov. 18, 2014), <http://www.zdnet.com/article/enterprise-adoption-of-open-source-is-on-the-rise/>.

for Tesla.¹⁶⁸ However, this biotech research setting is markedly different from the automobile industry. The need for Open Source in biotech evolved because of the patent anticommons that arose when academic institutions did large amounts of research and then patented all of it.¹⁶⁹ This “upstream” research far removed from any commercial product would then prevent any “downstream” commercial applications of that research.¹⁷⁰ In the automotive industry, all of the patents are in place for commercial production, and there is no real differentiation between upstream and downstream. There has been a decent amount of scholarly research identifying some of the issues with applying open source to biotech patent law, yet few seem to have focused much attention on the possibilities and hindrances of applying open source to all of patent law.

One of the most obvious differences between open source software and open sourcing Tesla's patents is the equipment required to modify and improve such technology. Open Source software innovation often requires only a computer and a certain level of programming skills.¹⁷¹ To work on Tesla's battery designs and potentially even improve them, one would require the necessary tools and mechanical sophistication, and it is highly unlikely that the average mechanic or inventor would have access to the requisite materials. In addition to the equipment required for modification, it has been postulated that in order to truly be an open source product, Tesla would also have to disclose their engineering documentation in addition to their patents.¹⁷² These technical limitations most likely would limit the potential number of participants to only the current automobile corporations that are interested in such technology as compared to the numerous groups and individuals who work on open source software.

That said, this issue is not the fault of an open source patent. Rather, it is an inherent difficulty of the high tech nature of Tesla's patents that would be a potential stumbling block regardless of the method it chose to encourage the use of its patents. The reason this is especially relevant to an open source patent is because of the collective nature of the open source movement. Open Source software is usually based on a peer-production model where a group of developers guides the additions of new code written by many others into the core software.¹⁷³ This collaboration allows for frequent changes to occur much faster than traditional software development and is a key component of the Open Source license.¹⁷⁴ In comparison, automobile manufacturers rarely act in such

¹⁶⁸ Feldman, *supra* note 87, at 117–18.

¹⁶⁹ Heller & Eisenberg, *supra* note 42, at 698.

¹⁷⁰ Marshall, *supra* note 107, at 491–92.

¹⁷¹ *Id.* at 513.

¹⁷² Wharton, *supra* note 22.

¹⁷³ Feldman & Nelson, *supra* note 84, at 23.

¹⁷⁴ *Id.*

accord.¹⁷⁵ The very nature of working with real materials instead of computer code makes it that much more difficult to develop and incorporate new ideas quickly. Finally, the amount of testing and development that must occur for a new battery design is much greater than running a software program.

Furthermore, Elon Musk seemed to indicate in his blog post and a subsequent interview a certain reluctance to work with other parties in using Tesla's patents.¹⁷⁶ Admittedly these quotes were made in the context of licensing agreements, and Tesla has shown a certain willingness to work with other manufacturers in the past.¹⁷⁷ Maybe there is a chance they would be willing to serve as the central hub of innovating their technology with other manufacturers. Perhaps the carbon crisis that served as the catalyst for Musk's decision would be sufficient for Tesla to take on this burden.¹⁷⁸

B. PATENT POOLS

For Tesla, the ability to set the standard for electric vehicles and their charging stations would be extremely appealing.¹⁷⁹ Setting agreed upon standards for both the batteries and the charging stations would help increase the number of manufacturers that adopt Tesla's technology and would hopefully encourage others to enter the market with a greater presence.¹⁸⁰ The lack of charging stations compared to gas stations is already one of the main obstacles to consumers buying electric vehicles. That problem gets even more complicated if every electric vehicle manufacturer creates their own exclusive charging type and station.¹⁸¹ Many other electric vehicles cannot even accept the power level that Tesla chargers deliver.¹⁸² Given Tesla's unique position as the premier innovator in a hopefully emerging electric vehicle industry, the

¹⁷⁵ See generally Stephen Edelstein, *BMW: No Interest In Tesla Cooperation, Musk Was Posturing For PR*, GREEN CAR REPORTS (Dec. 1, 2014), http://www.greencarreports.com/news/1095695_bmw-no-interest-in-tesla-cooperation-musk-was-posturing-for-pr.

¹⁷⁶ Every Elon Musk Video, *supra* note 120; Musk, *supra* note 1.

¹⁷⁷ In the past, Tesla has partnered with both Daimler and Toyota to produce battery components. See Edelstein, *supra* note 175.

¹⁷⁸ Musk, *supra* note 1.

¹⁷⁹ *Id.*

¹⁸⁰ Wharton, *supra* note 22 (noting that in Shanghai chargers compatible with Tesla are not being installed because they are different from those of other carmakers).

¹⁸¹ See Joel Hruska, *Tesla reveals plan to share Supercharger network with other electric car makers*, EXTREME TECH (June 11, 2014, 9:47 AM), <http://www.extremetech.com/extreme/184141-tesla-reveals-plan-to-share-supercharger-network-with-other-electric-car-makers>.

¹⁸² *Id.*; see also Zachary Shahan, *Electric Car Charging Capabilities — Comparison of 27 Models*, EVOBSESSION (Sept. 8, 2015), <http://evobsession.com/electric-car-charging-capabilities-comparison-of-27-models/> (showing that Tesla is the only vehicle capable of being charged with the fastest charge type).

ability to set the standard could help direct the future of the industry in the right direction.

Creating a patent pool with standard-setting with other auto manufacturers could very well be the solution Musk is looking for. The patent pool option offers a legitimacy that Musk's blog post lacks. Furthermore, by officially dealing with Tesla and the patent pool they help create, other manufacturers can be confident about avoiding litigation without simply relying on the "good faith" requirement.¹⁸³

Adopting the RAND commitment in the standard-setting organization helps Tesla and encourages others to join.¹⁸⁴ Given that Tesla would most likely dominate the pool, the RAND commitment would help alleviate members' concerns that Tesla might be able to abuse their market power by selectively refusing to license or charging higher royalties despite the indications that Musk does not wish to do so.¹⁸⁵ The RAND commitments also help further Tesla's goals of removing the "landmines" to innovation. By insisting that the members also license their relevant technology in fair and non-discriminatory ways, it ensures that companies will not abuse any potential market power if part of their intellectual property becomes part of the standard.¹⁸⁶

While other companies would benefit from access to Tesla's patents without fear of possible repercussions, and Tesla could certainly benefit from making their charging station the standard for the electric car industry, it is difficult to predict whether a pool would actually form. The main hindrance to the formation of a patent pool for the electric vehicle industry is the ability and willingness of every other major player to contribute to the pool. By the very nature of forming and joining a patent pool, the potential member would have to contribute some patents that would be essential to the furtherance of that technology.¹⁸⁷ As mentioned previously in Section I, Tesla is far and away the main innovator in this area. While other manufacturers have a large number of patents for electric car technology,¹⁸⁸ it is unclear if Tesla would need or want access to these patents. Given the other companies' lack of market share of battery-powered vehicles relative to Tesla, it is uncertain whether or not they would be able to join. Without having members donate necessary and essential patents to the pool, it ultimately would become a more complex vehicle for a

¹⁸³ See Marshall, *supra* note 107.

¹⁸⁴ See Miller, *supra* note 130, at 358.

¹⁸⁵ Layne-Farrar, *supra* note 126.

¹⁸⁶ *Id.*

¹⁸⁷ See Ed Levy, Emily Marden, Ben Warren, David Hartell & Isaac Filate, *Patent Pools And Genomics: Navigating A Course To Open Science?*, 16 B.U. J. SCI. & TECH. L. 75, 82 (2010).

¹⁸⁸ Brachmann, *supra* note 45.

run-of-the-mill licensing agreement, and going through that hassle for such a licensing agreement is likely not in the interests of Elon Musk and Tesla.¹⁸⁹

Furthermore, a patent pool might not be viable for the current automobile industry as a whole. Such a patent pool would require a high degree of cooperation for what is often considered a highly competitive industry.¹⁹⁰ For the most part, patent pools form when the members' interests already align in such a way that utilizing their patents against each other was already unlikely.¹⁹¹ The automobile industry does not exactly meet this standard.¹⁹² While large manufacturers have often preferred to settle their disputes outside of the legal system, and the rate of patent-related litigation between industry players has remained steady in recent years,¹⁹³ the industry is still much more litigious than it has been historically.¹⁹⁴ Some pools have only been able to form when the government has stepped in to aid in solving the collective action problems common to group bargaining.¹⁹⁵ When technology useful to the military was not being developed because of conflicting property rights, government threats of the eminent domain power contributed to the formation of patent pools.¹⁹⁶ Seeing how it is unlikely that the federal government is going to put pressure on the auto industry to increase production of electric cars, perhaps the collective bargaining issues are insurmountable.

Finally, assuming that there are major players with essential patents to contribute to the patent pool, there are still issues with then defining the RAND standards employed. There is no universally agreed upon operational definition of RAND licensing commitments.¹⁹⁷ Standard-setting organizations are left to employ whatever fairness language they require for licensing. Oftentimes they

¹⁸⁹ Every Elon Musk Video, *supra* note 120.

¹⁹⁰ See Hannah Lutz, *U.S. Market Has Never Been More Competitive, IHS Says* (Dec. 18, 2014, 7:00 AM), <http://www.autonews.com/article/20141218/RETAIL01/141219880/u.s.-market-has-never-been-more-competitive-ihs-says>.

¹⁹¹ Asay, *supra* note 81, at 477.

¹⁹² See Lutz, *supra* note 190.

¹⁹³ See Melinda DeSantis, Steven Oberholtzer & Robert Shereda, *A Review of Patent Related Trends in the Auto Industry*, LAW360 (Apr. 23, 2015, 10:22 AM), <http://www.law360.com/articles/646128/a-review-of-patent-related-trends-in-the-auto-industry> (identifying patent trolls as the main increase in litigation for the time period between 2008 and 2013 with the litigation between industry players remaining steady while depicting data showing an increase in patent applications and a willingness to defend them).

¹⁹⁴ See Steven L. Oberholtzer & Bradley L. Smith, *More Fights Over Intellectual Property: Auto Industry Throws Away Henry Ford's Rulebook*, BRINKS HOFER GILSON & LIONE 1 (2007), http://www.brinks.gilson.com/files/oberholtzer__smith_article.pdf.

¹⁹⁵ Merges, *supra* note 110, at 1356.

¹⁹⁶ *Id.* at 1356–57 (“In at least one case, the aircraft industry, a long-term industry patent pool was formed in the wake of the government’s forced licensing.”).

¹⁹⁷ Layne-Farrar, *supra* note 126.

adopt vague language and leave it up to the courts to determine what license terms would be fair and reasonable.¹⁹⁸

Tesla would likely favor the most open and generous RAND terms beyond the usual access lock in, but other companies may disagree. Traditional vehicle manufacturers lack the incentives of Tesla to license the technology on such favorable terms given that they would merely be taking advantage of a potential market instead of actively trying to build it up as Tesla has been doing. While Tesla has identified their patents as roadblocks to innovators, the traditional companies are less likely to adopt terms that mandate such a favorable licensing structure.¹⁹⁹ This potential wrangling over the terms in which the essential patents are licensed out may be insurmountable with regards to forming the patent pool and adopting the Tesla charging station as the standard.

C. CREATIVE COMMONS PATENT LICENSE

The final option for Tesla is to modify the Creative Commons License in copyright law and make it applicable to patent law. A patent commons is not a new idea and has been created in the past with varying degrees of success.²⁰⁰ The simplicity and wide adoption of the Creative Commons license²⁰¹ would make it a very attractive option for Tesla and Elon Musk in the patent field. Musk has made it very clear that Tesla is not interested in formalized talks with a potential user of its patents.²⁰² He simply wants companies to use them.²⁰³ While a patent version of the Creative Commons License would still very much be a license, it is not a licensing agreement that requires communication between parties. It would merely be an indication by Tesla that the use of the

¹⁹⁸ See Jay P. Kesan & Carol M. Hayes, *FRAND's Forever: Standards, Patent Transfers, and Licensing Commitments*, 89 IND. L.J. 231, 239–40 (2014).

¹⁹⁹ Ford claimed to open up their patents in a similar move to Tesla's, but some were quick to point out that this was merely an invitation to license a portion of its patents compared to Tesla opening up of all its patents. See Mike Masnick, *Ford Pretends To Open Up Its Patents Like Tesla, But Doesn't; Media Falls For It*, TECHDIRT (May 29, 2015, 9:40 AM), <https://www.techdirt.com/article/s/20150529/06161831144/ford-pretends-to-open-up-patents-like-tesla-doesnt-media-falls-it.shtml>.

²⁰⁰ Notably, Creative Commons partnered with Nike and Best Buy to create a digital commons called GreenXchange to help patent holders collaborate for sustainability. See Kaitlin Thane, *GreenXchange – a project of Creative Commons, Nike and Best Buy*, CREATIVE COMMONS BLOG (Feb. 10, 2009), <https://creativecommons.org/2009/02/10/greenxchange-a-project-of-creative-commons-nike>. The BIOS Project uses a patent license similar to the “ShareAlike” Creative Commons license. See *What Characterizes a BIOS-compliant agreement?*, BIOS, <http://www.bios.net/daisy/bios/faqs/bios-mta-faqs.html> (last visited Sept. 23, 2016).

²⁰¹ Estimated 350 million works in 2009. See *History*, CREATIVE COMMONS, <https://creativecommons.org/about/history> (last visited Sept. 23, 2016).

²⁰² Every Elon Musk Video, *supra* note 120.

²⁰³ *Id.*

patent is truly as open as Musk and the license say it is. No one would need to contact Tesla about the potential uses or permissions or the definition of “good faith.” They could simply read the easily understandable language of the license and rely on those protections.

The lack of royalties may be a deterrence to other companies, but it does not appear to bother Musk.²⁰⁴ Given his disinterest in entering into licensing agreements with other companies, it is safe to assume that he is not seeking royalties either. While paying a royalty may not be a great deterrence to a large company with significant funds, it may be more than a small innovator could afford. This lack of royalties is an additional way to increase the potential adopters.

Additionally, the users would have the full confidence and trust to actually take advantage of Tesla’s generous offer. Instead of the informal blog post with a dubious chance of being upheld in court, the parties could rely on a standardized license format that has been used millions of times across the globe. It is not a blog post but rather a contract that in the past fifteen years has yet to be rejected by the courts.

Given how recent of an invention the Creative Commons License is, there are still questions regarding its enforceability. Even though the license has been adopted for millions of works, there has been very little case law to chart the treatment of the license by the courts.²⁰⁵ The lack of judicial endorsement may serve to scare away any potential adopters of Tesla’s patents as being no better than the pledge made by Musk. As such, we are forced to speculate about the treatment of a Creative Commons License for both copyright and patent.

One of the main concerns of the potential technology adopters after Musk’s pledge was the repercussions if Musk eventually decided that the free use of Tesla’s patents was no longer in the company’s best interests. What would happen to the “infringers”? The adoption of a Creative Commons License does not completely alleviate this concern as it is still unclear what would happen in court if the owner decided to revoke the license.²⁰⁶ In a purely contractual regime, revoking the license may be a breach of contract entitling the licensee to damages.²⁰⁷ In the alternative, a revocation may entitle the intellectual property owner to enforce their rights against the third party.²⁰⁸

However, there is a strong argument that the licenses are not so easily revocable. This argument is based in part on the language found in the licenses

²⁰⁴ *Id.*

²⁰⁵ See Ashley West, *Little Victories: Promoting Artistic Progress Through the Enforcement of Creative Commons Arbitrations and Share-Alike Licenses*, 36 FLA. ST. U. L. REV. 903, 916–18 (2009).

²⁰⁶ Elkin-Koren, *supra* note 154, at 417–18.

²⁰⁷ *Id.*

²⁰⁸ *Id.*

themselves.²⁰⁹ In the “Termination” clause of the licenses, they specify that the rights granted to the licensee are “perpetual (for the duration of the applicable copyright).”²¹⁰ That clause only provides for a termination of the license when the licensee breaches one of the conditions.²¹¹ Additionally, that termination only applies to that breaching licensee.²¹² Given the plain language of this provision, it is likely that most would interpret its meaning to be that the rights granted last at least as long as the copyright (or patent in Tesla’s case) is in place and is not revocable at the will of the licensor.²¹³ Given the lack of litigation on the matter, the uncertainty continues to exist and may prevent others from adopting Tesla’s patents.

While adopting such a liberal license may be an optimal strategy for encouraging others to utilize Tesla’s patents, there is the possibility that Tesla would be giving up more control than they would be comfortable with. The different licenses available from the Creative Commons provide the benefit of not having to individually communicate and set up a licensing agreement with each interested party, but that lack of interaction comes at the price of not being able to control exactly how the license is used. The licensee could end up using Tesla’s intellectual property in a way Musk would consider embarrassing or offensive.²¹⁴

Assume that Tesla adopted a Creative Commons Patent License with only the “share-alike” and “attribution” protections in order to fully maximize the potential for other automakers to utilize Tesla’s technology in their vehicles. Those protections would not prohibit anyone from using the patents contrary to Musk’s wishes so long as they licensed their product in the same fashion and attributed the technology to Tesla.²¹⁵ That being said, such concerns may be overblown with something like electric vehicle technology. Musk’s “good faith” use limitation would most likely fail to bind the third party given its failure to appear in the license.

²⁰⁹ See Lydia Pallas Loren, *Building a Reliable Semicommons of Creative Works: Enforcement of Creative Commons Licenses and Limited Abandonment of Copyright*, 14 GEO. MASON L. REV. 271, 315 (2007).

²¹⁰ *Id.*

²¹¹ *Id.* at 316.

²¹² *Id.*

²¹³ *Id.* at 315.

²¹⁴ Johnson, *supra* note 141, at 1981; Forsythe & Kemp, *supra* note 147, at 363.

²¹⁵ One need not spend too much time imagining a parade of horrors of people legally using Tesla’s technology in embarrassing ways never contemplated by Musk and then attributing it to Tesla.

V. CONCLUSION

If Tesla truly wants to save the planet and completely change the industry by encouraging others to employ their unique and superior battery technology (whether its motives be genuinely altruistic or somewhat self-serving), then it must do more in order to accomplish those goals. Merely making a pledge and a good-natured promise not to offensively assert its patent rights creates too much uncertainty for the big players to take a risk.

Given that the current options granted by federal statutes are either to abstain from patenting or to cede one's patents to the public domain, Tesla will have to turn to private ordering in order to create confidence in its intentions. The optimal tool for Tesla to employ would be a patent version of the Creative Commons License. The licenses are both simple and easy to understand and have been extremely popular in the realm of copyright. Furthermore, they are flexible and easy to adopt in such a way that meets Tesla's goals. Creative Commons and Tesla could work together to produce a license for a new electric vehicle commons. This license would most likely be a simple modification of a ShareAlike license to ensure that the technology stays open to all for the benefit of the market and the world.

A Creative Commons License could be the easiest way for Tesla to signal to the market that it truly intend to share its patents, and it would have more substance than a mere blog post. Potential adopters could have their legal teams analyze the licenses, and they could reasonably assume the court would give more weight to an official license than a blog post.

Furthermore, this would allow Tesla to guarantee its intentions at an arm's length. If it chose to create a patent pool, it would still have to go through a series of negotiations with the members for just about every feature of the pool. And if it went with the Open Source License (even though it was in a large part the inspiration for the Creative Commons License), it would run into the difficulties of how the automobile industry is not comparable to the software industry due to the communication issues inherent to a more competitive industry.

The Creative Commons Patent License would attempt to work within the existing patent rules by "enabling a creator to have better tools to make a wider range of choices" similar to how the license works in copyright.²¹⁶ Tesla does not desire to exercise its full monopoly rights, and a patent version of the Creative Commons License could very well be the best way to effectively make that happen.

²¹⁶ Goss, *supra* note 152, at 992.

It may be years until evidence surfaces of whether or not Musk's patent pledge was truly sufficient to accomplish all of the lofty goals of Tesla Motors,²¹⁷ and perhaps we will never know whether it was due to the issues with the pledge itself or the industry's reluctance to actively pursue electric vehicles. Regardless, Musk can take a simple step to help his goals become a reality, and a Creative Commons Patent License may just accomplish that.

²¹⁷ The early indication is less than positive. *See supra* note 19.