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IP Protection of Fashion Design of Wearable Technology

1. Introduction

 *“It’s not just what it looks like and feels like. Design is how it works.” – Steve Jobs*

Fashion is rapidly evolving and Google Glass and Fitbit are harbingers of a new era where wearable technologies that incorporate aesthetic and technological advancements are the norm. Wearable technology might include smart jewelry and sportswear made of conductive fibers that allow consumers to gather biometric data. In this new world, wireless headsets and wearable wrist displays will eliminate the need to visit a stationary terminal and increase productivity for workers. Specialized industries such as healthcare and construction may also benefit from specialized technology such as glasses that might allow users to look inside patients’ veins and allow construction workers to see inside piping and walls.[[1]](#footnote-1) To capitalize on this trend, technology companies are hiring fashion designers to make wearable technology more design-friendly. Fitbit has brought on Tory Burch to create fashionable necklaces and wristbands to hold their technology. Ralph Lauren has created a sports shirt embedded with sensors that gather biometric data such as heart rate and respiration. Apple recruited Paul Deneve from Yves Saint Laurent and Angela Ahrendts from Burberry to design more “functional fashion.” [[2]](#footnote-2) Indeed, design is an integral part of wearable technology. “Design has always been a key motivator for technology purchases, but for wearable devices there is a greater focus because the devices are worn externally,” says Ben Arnold, executive director of the NPD Group. “For device manufacturers, this is an opportunity to differentiate their product lines with special colors or designs or even to partner with other fashion or design-focused brands.”

The market for wearables is projected to grow rapidly. Revenues are expected to rise from $3.7 billion in 2013 to $8.3 billion by 2018.[[3]](#footnote-3) In terms of volume, the market is expected to increase at least 30 percent annually from 35.7 million to 134 million units. In just three short years, this industry will see a myriad of new companies enter a market built upon the already huge success of smartphone technology and the prevalence of mobile applications. One can easily envision a future where all clothing incorporates technology in some way. Although intellectual property has traditionally made a neat distinction between design and patent law, wearable technology may blur these lines. This paper explores how intellectual property with respect to fashion and design should evolve from its current patchwork regime of trademark, copyright, and design patents to apply to the design of wearable technology. I will start with an analysis of the current state of copyright of fashion design, then explain how wearable technology will be protected in the future and then propose other options for IP protection for this new segment.

1. IP Protection of Fashion Design

Copyright, in its current state, provides little protection for clothing designs. U.S. copyright law applies to “original works of authorship fixed in any tangible medium of expression” that are created under eight enumerated categories. However, clothing does not fit under any category in this list because the “useful articles doctrine” does not extend copyright protection to items with both a functional and artistic purpose. The useful articles doctrine is meant to be a line in the sand between copyright and patent.

However, there are some parts of clothing design that might be covered by copyright. In *Mazer v. Stein*, the leading case on the subject of applied art, the Supreme Court determined that a sculptured lamp base could be subject to copyright protection because the base, separated from the lamp, had artistic merit. This served as the basis for the “separability test” for useful articles where “pictorial, graphic, or sculptural” parts of the work that can be physically or conceptually separated from the utilitarian function, can be protected by copyright. For example, an applique on a sweater might be protected but the cut, color, or draping of the sweater will not be protected.

This limited IP protection has led to rampant copying in the fashion industry, with notable retailers like H&M and Forever 21 building their businesses on that model. There is scholarly debate as to whether the “fast-fashion” industry is engaging in nefarious piracy or something more benign. Scholars such as Professors Scott Hemphill and Jeannie Suk, have argued for increased copyright protection for fashion design against close copies.[[4]](#footnote-4) They argue that fashion design fulfills a social and psychological purpose because it allows consumers to express their individuality as well as to fulfill the desire to “associate themselves with things that are new, innovate, and state of the art.”[[5]](#footnote-5) As a result, Hemphill and Suk conclude that “copies reduce the profitability of originals, thus reducing the prospective incentive to develop new designs in the first place.” In the same camp, Representative Charles Schumer has proposed a bill to Congress that would extend copyright protection to clothing. The “Fashion Bill” extends copyright protection for three years to fashion designs that “(i) are the result of a designer’s own creative endeavor; and (ii) provide a unique, distinguishable, non-trivial and non-utilitarian variation over prior designs for similar types of articles.”[[6]](#footnote-6)

On the other side of the debate, Professors Raustiala and Sprigman espouse the “piracy paradox” idea that the lack of IP rights for fashion design actually helps the fashion industry because it “accelerates the diffusion of designs and styles” which allows for a shorter trend cycle. This causes consumers to purchase more than is needed to stay up to date, which benefits designers and the fashion industry as a whole.[[7]](#footnote-7)

Setting aside for now the debate on whether copyright should be extended to design, the fashion industry also benefits from trademark protection. While trademarks do not protect fashion designs per se, trademark serves to protect logos, symbols, and brand names that are used to identify the source of products. Trademark protection can also extend to ambiguous signifiers that are deemed to acquire a “secondary meaning.” For example in *Christian Louboutin S.A. v. Yves Saint Laurent Am. Holdings, Inc.*[[8]](#footnote-8), the Second Circuit concluded that “Louboutin's trademark, which covers the red, lacquered outsole of a woman's high fashion shoe, has acquired limited “secondary meaning” as a distinctive symbol that identifies the Louboutin brand.”

Clothing can also be protected by design patents, which cover “any new, original and ornamental design for an article of manufacture” for a 14-year term.[[9]](#footnote-9) Obtaining a design patent is relatively costly, and requires substantial examination by the PTO, which can cost thousands of dollars and more than one year to complete. Moreover, a design patent’s substantive standards are relatively high compared to copyright and trademark.[[10]](#footnote-10) Design patents are for ornamental designs and are subject to the same requirements as utility patents,such as novelty, utility, and nonobviousness. As a functional matter, design patent prosecution is “faster and less expensive than utility patent prosecution.” Additionally, plaintiffs may be able to obtain significantly higher damages for design patent infringement than those from utility patent infringement because they are able to recover an infringer’s “total profit” even when the infringed design accounts for little of the economic value of the broader product.[[11]](#footnote-11)

Design patents, which have been highlighted in the recent Apple/Samsung litigation over the design of smartphones and tablets, have often been used in the context of industrial design.[[12]](#footnote-12) Generally, standard clothing (like shirts, dresses, hats) will not be eligible for design patents because they will not fulfill the nonobviousness requirement.[[13]](#footnote-13) However, Lululemon, an active wear clothing company, has a portfolio of 31 design patents on items such as sports bras and duffel bags and has actively been pursuing litigation to protect its designs in the competitive popular athletic apparel space. For example, Lululemon sued Calvin Klein and Hanesbrand in 2012 for violating a design patent on its yoga pants.[[14]](#footnote-14) Although Lululemon settled with Calvin Klein, it is currently pursuing litigation with Hanesbrand over a design for a patented tank top that consists of a loose tank top over a sports bra and waistband bottom.

1. How do we envision IP protection to apply to the fashion of wearable technology? How should it apply?

From the current state of affairs, it appears that intellectual property law protecting wearable technologies will be a patchwork of utility and design patents as well as limited copyright and trademark. The underlying functional technology such as a sensor (for example, a pedometer in a Sony Smartband), wiring, or special fabric will be protected by a utility patent. Many wearable technology devices will communicate information with other devices such as a smartphone via an app. This app may also be patented if it solves a technical problem in a novel manner. As under the fashion regime, a brand name or logo used to market the wearable technology product can be protected by trademark law, which aims to protect the goodwill and business reputation built up under that trademark.

Problems occur, however, when using design patents to protect wearable technology. Since the market for wearables is a completely new sector, one can imagine that garments or accessories will need to be retrofitted to accommodate the technology; design patents will be heavily used to protect such innovations. Sleeves will need to be tailored a certain way to hold sensors properly, glasses frames will need to be re-designed to hold wires or lasers, and handbags may need to be redesigned to accommodate circuit boards. As “smart” fashion begins to dominate the clothing industry rather than functioning as a niche market, this might ultimately result in increased IP protection for clothing designers via design patents and a boon for the fashion designers that have been eagerly lobbying for protection for their designs.

However, is it desirable to have increased IP protection for the design of wearables? Proponents will likely invoke the popular argument that IP protection gives incentives for innovation. They would argue that the invention of these new technological garments, which require both investment in capital and labor, would never have occurred without such increased protections.

On the other hand, design patents have high social costs- they raise prices and decrease access to designs by creating artificial scarcity and giving a monopoly to those who come first. If, as Hemphill and Suk advance, the benefits of design are partially social and psychological by allowing people to express themselves and be a part of the zeitgeist of the times through fashion, then design patents may serve to widen class inequalities. This is because design patents will make high-priced wearables unaffordable to the middle and lower classes, who will not be able to reap as many of the benefits of social and psychological expression as the upper class. Following this logic further, if design is about expression of the times and product differentiation for various cultural and socioeconomic tastes is desirable, then perhaps as a result of the lack of middle and lower class consumers will deprive the wearable technology industry of beneficial differentiation. Currently, the fashion industry has multi-faceted sources for design which creates many options for consumers: for example, Prada, aimed for higher incomes, may push for jewel tone bags this season while Coach, aimed for middle incomes, may create striped bags. This differentiation benefits consumers by giving them more choice, allowing them to better optimize their utility. However, if the pool of consumers is limited due to the increase in price attributable to design patents, then designers have less of an incentive to create distinct designs for a diverse set of consumers, who ultimately lose out on a wide breadth of design options in the wearable technology market. Another critique of the “incentives for innovation” argument is that there is weak empirical support that design patents are necessary to induce innovation in design.[[15]](#footnote-15) Especially in the market for fashion and design, which has a short life cycle, a combination of the first mover advantage, the notoriety of being a “cool” brand/design/company, and the natural importance to differentiate one’s products from the masses may be sufficient to eliminate formal IP protections.

 The next argument that pro-IP designers will advance is the Lockean labor theory, which posits that a designer should be entitled to property rights over designs created through the exercise of his labor. Moreover, such designers would argue that stronger IP protection is necessary for wearables because if authors and filmmakers receive IP protection through copyright, from a horizontal equity perspective, shouldn’t designers of wearables receive similar protections through design patents? Nevertheless, opponents of increased IP protection will argue that the law should aim to balance private costs against public well-being. Consequently, if one designer loses out on revenue but the greater public gains due to lower costs and greater psychological and social benefits, then perhaps a lack of IP for wearable technology designs may be justified.

Another possibility is that, depending on the stage of the life cycle of wearables, trademarks may become increasingly meaningful as signals of quality in the world of wearable technology. Although one can imagine that sensors and fabrics will likely become commoditized and available for all wearable manufacturers to purchase from third parties (something akin to Intel Pentium chips that fit in different types of computers), the quality of how such technologies are integrated within the fabric may become paramount. For example, a malfunction of a poorly-installed sensor on a t-shirt might result in a trip to the emergency room – an undoubtedly more serious consequence for the consumer than an ill-fitting sweater. Rather than entrusting your well-being to a Walmart-quality garment, consumers might find it easier to invest in Nike’s wearable technology. In that way, there is a possibility that trademark technology will coincide with the quality of design enough that be sufficient.

My last suggestion is that a 14-year design patent may just be too long in the wearable technology market. As fashions change and trends evolve every season, granting a 14-year monopoly on a wearable design would be imposing too high of a societal cost that might ultimately slow down the adoption of wearables. As Representative Schumer’s Fashion Bill proposes, perhaps 3 years of IP protection would be adequate for fashion items and would represent a fair balance between providing incentives for innovation while providing democratic access to wearable technology.

1. Conclusion

It is too early to tell whether wearable technology will be a niche market or whether all fashion will incorporate wearable technology. Nevertheless, it is likely that design patents will play an increased role in the fashion design industry’s future and thus it is important to consider what the limits of a design patent should be.

1. http://www.forbes.com/sites/salesforce/2014/09/07/wearable-tech-business/ [↑](#footnote-ref-1)
2. http://www.washingtonpost.com/news/business/wp/2014/09/01/can-fashion-designers-make-tech-wearables-truly-wearable/ [↑](#footnote-ref-2)
3. http://www.hanoverresearch.com/insights/the-rise-of-the-wearable-tech-market/?i=food-beverage [↑](#footnote-ref-3)
4. Hemphill, C. Scott and Jeannie Suk. The Law, Culture, and Economics of Fashion. 61 Stan. L. Rev. 1147, March 2009. [↑](#footnote-ref-4)
5. *Id.* at 1158. [↑](#footnote-ref-5)
6. <https://www.congress.gov/bill/112th-congress/senate-bill/3523>; http://www.forbes.com/sites/oliverherzfeld/2013/01/03/protecting-fashion-designs/ [↑](#footnote-ref-6)
7. Id. at 285 [↑](#footnote-ref-7)
8. 696 F.3d 206, 212 (2d Cir. 2012) [↑](#footnote-ref-8)
9. 35 U.S.C. 171 [↑](#footnote-ref-9)
10. Peter Lee and Mandhavi Sunder, Design Patents: Law Without Design, 17 Stan. Tech. L. Rev. 277 (2013). [↑](#footnote-ref-10)
11. *Id.* at 288 [↑](#footnote-ref-11)
12. *Id.* at 283. [↑](#footnote-ref-12)
13. http://www.forbes.com/sites/oliverherzfeld/2013/01/03/protecting-fashion-designs/ [↑](#footnote-ref-13)
14. http://www.buzzfeed.com/sapna/lululemon-patent-troll#3gvhwtb [↑](#footnote-ref-14)
15. Lee, *supra* note 10 at 290. [↑](#footnote-ref-15)