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Intellectual Property Issues for 3D Printing – What You Ought to Know

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Jordan Becker is a registered patent attorney with over 20 years' experience as an attorney built upon his prior engineering experience. He offers a strategic perspective in guiding high-tech companies and entrepreneurs in all aspects of IP protection. He focuses on developing IP protection strategies and building IP portfolios, and he has obtained hundreds of U.S. and foreign patents for clients. In post-grant proceedings before the U.S. Patent Office, Jordan has defeated numerous third-party patent claims asserted against his clients. He also analyzes patents and counsels clients in connection with patent monetization and corporate transactions and provides opinions on third-party patents.

A former engineer in the aerospace industry, Jordan is passionate about strategically helping clients obtain strong patents that can provide a competitive advantage and withstand challenges from infringers. His clients range from individual entrepreneurs and startups to multinational companies. Jordan has extensive experience in patenting software, electrical/electronic hardware and mechanical devices, in fields such as computer networking, wireless communications, 3D printing, virtual reality (VR) and augmented reality (AR), medical devices, big data, cloud computing, network storage, image processing, speech recognition and IC design/fabrication.

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Topics

- Protection of IP in 3D Printing Technology
- Addressing Infringement of IP by 3D Printing
- Patent
- Trademark
- Trade Secret
- Copyright

Note: *The views and opinions expressed in this presentation are those of the presenter and do not necessarily reflect those of Perkins Coie LLP or its clients. This presentation does not constitute or include legal advice and does not create any attorney-client relationship.*

Overview

- 3D printing significantly reduces time, difficulty and expense of manufacturing many types of products
 - Examples: Aircraft and automobile parts, medical devices, toys, synthetic body parts, organic (living) body parts or tissue, food.
- Cost of 3D printers steadily decreasing → 3D printers will become as ubiquitous as home PCs
- Capabilities of 3D printers, availability/diversity of raw materials, continue to increase
- Easier and less expensive than before to duplicate many types of products

Overview

- Creates greater potential for infringement of IP rights
- Requires vigilance in protection of IP
- Biggest issue for the long-term: Difficulty of discovering infringing 3D printing activity
 - at least for “small” infringers
 - manufacturing may become more distributed at smaller facilities as 3D printers become less expensive, more advanced and more common, and more raw materials become available
 - Small, neighborhood manufacturing houses may become the norm in many fields (even home manufacturing)
- Disruptive: Could impact manufacturing similarly to how digital media impacted music industry
- IP laws may require amendment

Patent

- Broadest form of protection for technology
- To be protectable, invention must be novel, non-obvious and eligible subject matter
- Examples of potentially protectable 3D printing inventions:
 - 3D printer hardware
 - Software for 3D scanning of objects, printer control, DRM, networking
 - Compositions for product raw materials
 - Product customization, printing process (to the extent novel & non-obvious)
- 3D model data probably not protectable by patent

Patent

- But 3D printing is quickly becoming crowded field
Currently more than 3500 issued patents (CPC B33Y)
- Important to file applications as early as possible
- Expedited examination (e.g., Track One) recommended for key inventions
- Case law affecting patent subject matter eligibility -- Alice v. CLS Bank and subsequent case law potentially a challenge to patenting certain inventions, esp. software (e.g., 3D printer control), but can be overcome in most cases
- Increasing emphasis on design patents to cover 3D printed articles

Trademark

- Trademark is a word, name, symbol, or device used by a party to identify and distinguish goods from those manufactured or sold by others and to indicate the source of the goods
- Trade Dress is a type of trademark that relates to the overall appearance of a product and/or its packaging
- 3D printing makes manufacturing of “knock-off” products easier
- Abundance of counterfeit goods on the market could weaken public’s confidence in authenticity of legitimate trademarks/brands
- Makes vigilant policing and enforcement of trademarks very important

Trademark

- Registration of trademarks can deter unauthorized 3D printing of counterfeit goods
- Filing trademark and trade dress applications early becoming increasingly important, e.g.:
 - For trademarks, file as soon as manufacturer has intent to use the mark
 - For product configuration trade dress, file as soon as it can be established that the design has become associated with a particular source in the minds of consumers (“secondary meaning”)
- For counterfeit marks, owner can potentially get treble damages, statutory damages (\$1,000 – \$200,000 per-mark per-class), injunction, seizure of goods; possible criminal liability for infringer

Trade Secret

- Any non-public information that can be used in operation of a business, that derives independent economic value from the fact that it is not publicly known (secret).
- Examples in 3D Printing: Proprietary customization techniques, source code for “back-end” software (e.g., printer control, scanning)
- To preserve rights, need to take reasonable steps to keep the information secret
- State law -- Uniform Trade Secrets Act (UTSA) adopted by all states except NY and MA
- Federal law
 - Defend Trade Secrets Act of 2016 (DTSA) (18 U.S.C. § 1836(b)(1)) -- Provides trade secret owners with federal, private, civil cause of action to assert claims for misappropriation of trade secret. See 18 U.S.C. § 1836(b)(1).
 - Damages, injunction, seizure
 - Economic Espionage Act (18 U.S.C. §§ 1831, 1832) – Criminal penalties

Copyright

- Protects an original work of authorship fixed in any tangible medium of expression. 17 U.S.C. § 102(a).
- Categories of potentially protectable works include computer programs, pictorial, graphic and sculptural works, etc. Id., §§ 101, 102, 117.
- Registration of copyright not required for protection, but is prerequisite to infringement lawsuit and right to statutory damages.
- Examples in 3D Printing:
 - Designs of objects that can be 3D printed (not ordinary objects such as tools or plates)
 - Software for 3D scanning, printer control, DRM, etc.
 - 3D model data? In some cases, but probably not where the object to be printed isn't copyrightable or where data is produced by 3D scanning
 - Narrow protection – Only protects against actual copying, not independent development of similar or identical work.

Copyright

- 3D blueprints (model data) becoming big industry – will likely increase copyright litigation for manufacturers and creators of 3D blueprints
- Use of strong DRM techniques desirable to protect 3D printing software and blueprints
- Use copyright notices consistently on software, files and printed articles as deterrent
- 3D blueprint file-sharing sites (e.g., Thingiverse, Shapeways)
 - Digital Millennium Copyright Act (DMCA) – To be protected from liability, an ISP must take certain steps in response to notice that infringing material resides on its network (“takedown notice”)
 - Useful tool for websites that host 3D model data for 3D printing infringing articles
 - Copyright owners should send takedown notices promptly upon becoming aware of infringing files online

Conclusions

- IP infringement and IP litigation likely to increase overall due to 3D printing
- Traditional IP rights and enforcement mechanisms still useful in deterring infringement related to 3D printing
- Comprehensive approach desirable -- No single “silver bullet” form of IP for 3D printing
- IP owners need to be consistent in monitoring for infringement and in enforcing rights:
 - File patent and trademark applications early
 - Requested expedited examination for key patent applications
 - Police and enforce patented inventions and trademarks vigilantly
 - Adopt robust trade secret protection measures
 - Send DMCA takedown notices promptly upon discovering infringing online files



Questions?