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Intellectual property rights and 3D printing: a threat or an opportunity?

The latest developments in 3D printing and the implications for IP protection.

The UK has a long tradition of granting exclusive rights to inventors for their work. The earliest patent was granted by Henry VI in 1449, giving John of Utynam a monopoly for a method of making the stained glass installed in the windows of Eton College. IP laws in the UK have since grown and developed to protect the rights of inventors as the rate of technological change has increased. In this briefing note, we explore how developments in 3D printing technology interact with the current laws that protect and encourage innovation.

The decentralisation of manufacturing

3D printers are increasingly affordable to individuals and small companies. Traditionally, manufacture occurs at central locations with goods being distributed out to points of sale. 3D printing has the potential to decentralise manufacture and to shift the making of goods from central locations into homes and offices.

Decentralisation poses additional challenges for IP enforcement. Firstly, the overall number of manufacturers may be increased, making it a greater operation to identify and stop all sources of illegal goods. Secondly, it may become more difficult to identify who is making the goods, especially if they are being made in a home and sold online. Although each seller may be making a relatively small number of units, together the total number of units may amount to a sizeable loss of business to the rights owner.

The impact of 3D printing will of course vary between industries; the industries which will feel the impact first are expected to be those whose products are relatively easy to make and require the use of minimal materials. The toy industry, for example, may be particularly susceptible to the impact of 3D printing. According to Samantha Loveday, editor of *ToyNews*, some industry insiders fear that 3D printing could "do to the toy industry what illegal downloading did to the music industry".

Home use of 3D printers

In the UK Patents Act, there is a defence to infringement for acts which are done privately and for purposes which are non-commercial. Would this defence extend to protect individuals who own a 3D printer in their home and who download and print products without the right owner's permission?

To date, there is no case law on this point in the UK. The cost of bringing legal proceedings is not insignificant and if an individual is making a small number of products for their own home use then currently it is unlikely to be worthwhile bringing an action against individuals themselves. However, if, as is expected with increasing use of 3D printing, the number of individuals making products at home is significant and affects the overall market for the products, then IP cases against individuals may become ever more prevalent.

In the mid-2000s, the Recording Industry Association of America (RIAA) sued more than 18,000 people for illegally sharing music. Most of those cases were settled out of court or dismissed. However, the RIAA adjusted its anti-piracy strategy in 2008 and stopped suing individuals. According to Christopher Jon Sprigman, co-author of the *Knockoff Economy*, "The record companies basically bought themselves a huge amount of bad publicity, a few settlements and no real impact on file sharing."

Could manufacturers of 3D printers be held to account for providing the means which permit rights to be infringed in the home? In the 1980s, Amstrad made a cassette machine which allowed recording onto blank tapes. Proceedings were brought against Amstrad by CBS Songs Ltd and others who alleged that the manufacturing, advertising and offering for sale of such equipment amounted to copyright infringement as it authorised the public to infringe their copyright. However, Amstrad were considered to have conferred the power to copy but not to have granted the right to copy, and they were not considered to have authorised the infringement.

Illegal file sharing

Some experts fear that design files for 3D printers could be made available illegally on the internet on a large scale, as has been the case with films and music. Printed objects may be protected by design, copyright, patent and/or trademark laws but do IP rights protect against the offering of the files? Who would be held liable for infringement?

Computer code is often protected by copyright, but difficulties can arise in enforcing the rights if the code is shared online without permission of the rights owner. The music industry was turned on its head in 1999 by the creation of Napster, a program written by US teenager Shawn Fanning, which allowed copying and exchanging of music online. The RIAA sued Napster within months

of the service launching and, after two years of legal fighting, Napster was shut down. However, the damage had been done and many other illegal file sharing websites are now present online. In 2012 it is estimated that around 347 million songs were downloaded illegally in the UK, representing a cost of around £250 million to the music industry. Could 3D printing result in similar losses to other industries?

Exhaustion of rights

Exhaustion of rights often limits the extent to which patent holders can control patented products after an authorised sale. In other words, the patent rights can often be exhausted within a particular territory once the products have been sold by or with the consent of the patent owner and generally the patent rights cannot then be used to control the secondary market for that product within the territory. With 3D printing, 3D printing instructions are often provided to purchasers. Could the instructions themselves be legally resold by the purchaser under exhaustion of rights principles? Rights owners should seek legal advice on how they offer their files for sale and contracts may need to be drawn up before any instructions are made available.

Parallel imports

Although progress is being made towards a unitary European patent, there is currently no European patent system which gives a patentee a unitary patent right in all countries of the European Union. The present system results in multiple patent rights in selected countries of the European Union (and other countries). The cost of patent protection naturally increases with the number of countries which a patentee selects for protection.

Imagine a scenario in which a patentee has patent rights in the UK and France, but does not have patent rights in Germany. If a third party manufactures goods in Germany which fall within the scope of the patent rights, and the patentee has not consented to the manufacture of these goods, then the patentee can use his patents in the UK and France to stop importation of these goods from Germany. However, if the patentee consents to the marketing of goods in Germany which fall within the scope of the patent rights then he cannot use his patents in the UK and France to stop the importation of these goods from Germany.

The files to make 3D products are likely be sold and traded over the internet. It is harder to restrict such sales geographically and 3D printing files are likely to be legally provided to third parties in countries in which the rights owner has no patent. Rights owners may therefore see an increase in imports to countries in which they do have patent protection from countries in which they do not have patent protection. Increased competition may make it harder for rights owners to capitalise fully on their monopoly rights.

What can you do to increase protection for your product?

With the advent of 3D printing, inventors and designers are likely to be in a stronger position if they have registered rights which protect their products, such as patents, registered designs and trademarks. Registration results in a monopoly right and provides proof of ownership.

Registered designs may be increasingly important as a registered design protects the appearance of a product and can be used to stop others making a design as shown in the registration. So, if design files for a 3D product are made available illegally on a website, then the monopoly right of the rights owner could be used against the unauthorised sale of products made according to the design.

European and UK law also provides unregistered design rights in the appearance of products. These rights arise automatically and, although they are more difficult to enforce than registered rights, they may still be of value in preventing third parties from copying and making goods.

The internet provides an easy mode of selling goods for individuals and small companies. Websites offering a portal for sales often have software in place to allow rights owners to stop the sale of infringing goods, but website owners normally require proof of ownership of the rights before such rights can be enforced. In these circumstances, it can be more difficult to prove ownership of and enforce unregistered rights such as copyright and unregistered design right, and independent creation can be used as a defence to infringement of unregistered rights. Designers and inventors are therefore advised to apply for registered rights wherever possible to have the most robust protection for their innovations.

Conclusion

The Paris Convention for the Protection of Industrial Property was originally agreed in 1883, and since then the pace of technological change has increased dramatically, but the convention still forms the basis for intellectual property rights globally, and the rights themselves have developed and adapted to take into account many changes. The expectation must be that the same will happen for 3D printing. As a significant advance in technology, the facility to free individuals to design and manufacture their own quality products on a large scale must be celebrated. Ultimately, the designers of tomorrow utilising 3D printing will want their own products protected, and this must be encouraged through an effective legal framework. Whilst the law takes time to adapt, in the interim, inventors and designers should be encouraged to obtain the best protection possible for their products. There should be no reason why the existing legal framework for intellectual property rights should not work to encourage design and innovation, rather than hinder it.

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Need advice?

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