

EIP

#Barbenheimer: A Tale of Patents, Designs and Possibilities

Introduction

The Barbenheimer phenomenon has broken several box-office records. Barbie has made Greta Gerwig the first solo female director to produce a \$1 billion dollar film, while Christopher Nolan's Oppenheimer is now the highest grossing World War 2 film of all time. What people might not expect is that each of these stories has something to say about how intellectual property has helped to shape our society. Oppenheimer tells us how the government of the United States controlled the spread of information about the development of the atomic bomb, while early patent disputes regarding Barbie illustrate how companies can leverage their intellectual property.

Can you patent an atomic bomb?

At first glance, nothing appears particularly unusual about US patent number 3,040,660; "Electric initiator with exploding bridge wire". It discloses a new type of detonator that offers a shorter delay between ignition and detonation for "special industrial applications"; perhaps mining or building demolition? However, it was filed in 1944 and only published in 1962, and the inventor worked under Robert Oppenheimer in the Manhattan Project. Indeed, US3,040,660 represents the detonator that was used to activate two atomic bombs above Hiroshima and Nagasaki. This patent typifies the story of how United States government exercised intellectual control over the development of nuclear armaments during the Second World War.

Conceptually, patents are a poor choice of protection for such sensitive innovations. Patents encourage private innovation by rewarding inventors with exclusive rights in return for disclosing publicly how an invention works. However, the release of

information on how to develop a nuclear bomb is clearly undesirable - and it is unlikely that a nuclear rival would be deterred by threats of litigation over patent infringement.

Despite this, the patent system was used extensively. The United States government funded commercial and academic enterprises to develop military arms, and many initial deals granted intellectual property rights to the inventors. This approach changed as the potential power of an atomic bomb became apparent. The Head of the Office of Scientific Research and Development obtained permission explicitly from President Roosevelt in 1942 to force the transfer of intellectual property rights over to the government. Exemplifying this, executive power was used against the University of California to hand over rights regarding the production and usage of plutonium as a fissile material.

The United States Patent and Trademark Office also played a role. If a patent application was deemed relevant to the development of an atomic bomb, the inventors would receive a 'secrecy order' that froze the application and prevented it from being filed in another country, backed up with the threat of a potential prison sentence.

Overall, the United States government adapted the patent system to maintain secrecy. Patents were assigned to government bodies to prevent private individuals from acquiring ownership, and then publication was withheld. After the war, the Atomic Energy Act of 1946 was introduced which instructed that "no patent shall hereafter be granted for any invention or discovery which is useful solely in [...] atomic energy for a military weapon." The United States government moved away from controlling patents and instead enacted secrecy, obtained monopolies over raw materials and formed diplomatic agreements. The UK has a similar approach, with the Atomic Energy Authority (Weapons Group) Act of 1973 granting all intellectual property concerning nuclear weapons to the Atomic Energy Authority.

The birth of Barbie: a cultural phenomenon

In 1956 Ruth Handler, the inventor of the Barbie doll and co-founder of toy manufacturer Mattel, Inc, took a European Holiday with her children Barbara and Kenneth (who later inspired the names of Barbie and Ken) and came across Greiner & Hausser's ("G&H") Bild-Lilli doll. The Bild-Lilli doll was launched by G&H in 1955 and produced until 1964, and was based on a comic strip character Lilli created by Reinhard Beuthien for the tabloid newspaper Bild.

Inspired by the German doll, Handler redesigned the doll with the help of John W. Ryan, who was head of Mattel's research and development department. On 24 July 1959, they filed the famous doll construction patent (US 3,009,284 - the "**Barbie patent**") which allowed Barbie to stand upright. Shortly after, Barbie made her public debut at the

American International Toy Fair in New York City. Mattel was granted the Barbie patent in 1961 and later issued other patents for various developments to Barbie.

A side-by-side comparison of the 1959 Barbie and the Bild-Lilli doll will illustrate only slight differences such as minor adjustments to Barbie's hairline, eyebrows, eyeline and lips. The overall appearance of both dolls was argued to be almost identical.

Handler's inspiration seemed more like infringement to the owners of the Bild-Lilli doll who sued Mattel for infringement of their hip-joint patent (US 2,925,684) which aimed to provide dolls with articulation means for legs to mimic walking human beings. G&H argued that not only did Barbie infringe their hip-joint patent, but also there was confusion misleading the public into believing that Mattel had created the doll.

Litigation continued between Mattel and G&H until 1964 when the parties settled with Mattel purchasing both the patent and copyright for the Bild-Lilli doll for \$21,600.

Barbie's battle to keep her crown

The patent dispute with G&H was only the beginning. Several other intellectual property disputes arose regarding Barbie over the decades, including a recent battle between Jieyang Defa Industry Co. Ltd ("**Jieyang**") and Mattel which commenced in 2017. Mattel filed an application at EUIPO for a declaration of invalidity of Jieyang's community registered design of a doll head for lack of individual character and novelty in relation to prior designs referred to as Defa Doll and Barbie CEO Sculpture. It was held that the designs do not produce a different overall impression on the informed user and lacked individual character.

With the numerous intellectual property disputes involving Barbie, Mattel has been successful in protecting their intellectual property and remaining an iconic brand. In addition to registering and protecting their intellectual property, Mattel has also adopted a licensing strategy allowing other companies to associate their products with the famous Barbie brand.

Conclusion

The atomic bomb and Barbie cases demonstrate how to leverage and control intellectual property. The United States Government's use of the patent system prevented competing interests from acquiring ownership of innovations that would threaten the government's hegemony over atomic research. Mattel's adaptation of intellectual property rights over the past 64 years has been illustrated by their creation and development of the iconic brand Barbie. Additionally, their ability to keep Barbie relevant in the toy industry for over six decades exemplifies the strengths in registering, protecting and commercialising

intellectual property.