



THE POWER OF INTELLECTUAL PROPERTY TRIANGULATION

In 1968, National Inventors Hall of Fame® (NIHF) Inductee Spencer Silver made a discovery that led to one of the most successful office supply products in history. At first, however, his findings did not appear promising.

As a senior scientist working for 3M, Silver was tasked with developing new, stronger adhesives. However, the sticky “microspheres” he invented were neither very strong nor permanent. Instead, these indestructible acrylic spheres were “strong enough to hold papers together but weak enough to allow the papers to be pulled apart again without being torn.”¹ Additionally, the adhesive’s properties allowed it to be reused without leaving behind any type of residue.

While Silver’s reusable adhesive was undoubtedly unique, many within 3M doubted it could be used to create a viable product.

“I’d spun my wheels a long time trying to find a product I could put my adhesive on,” Silver said in an interview with NIHF. “There was a bunch of them, but none of them were really that big or big enough to pursue, other than in a trivial way.”

Five years later, in 1973, a change in management within 3M allowed Silver to prototype a reusable bulletin board. However, the buildup of dirt and dust on the board itself made this idea unfeasible.²

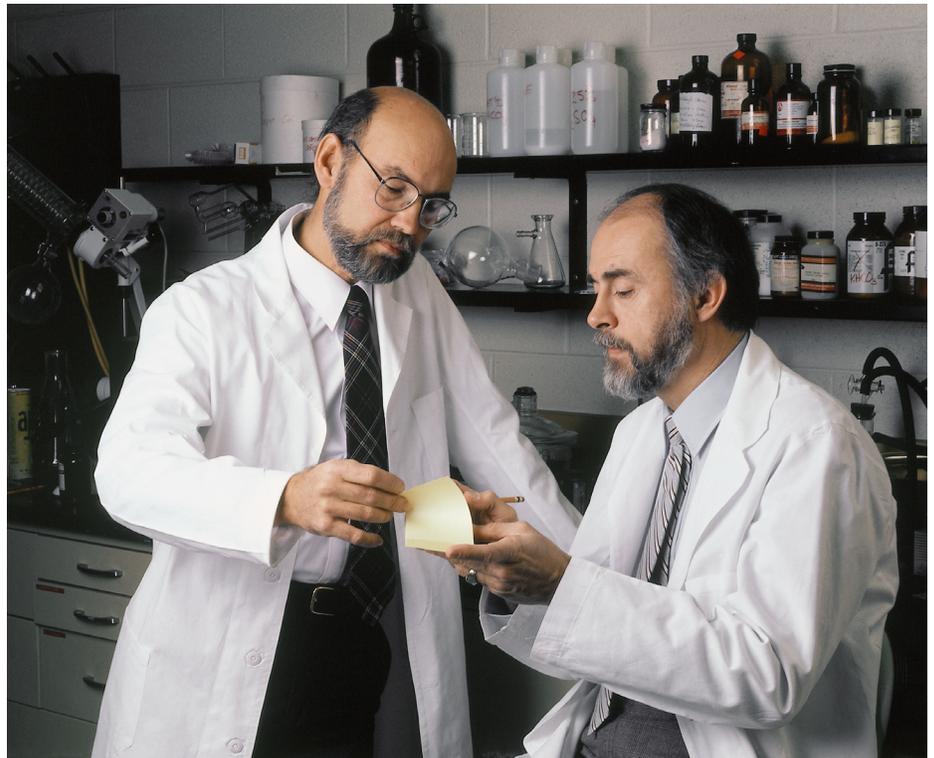
Everything changed in 1974, when NIHF Inductee Art Fry, a new product development researcher at 3M, was singing one night at church and wondered if he could make a bookmark that would stick to his hymnal but not damage the page after removing it. Immediately he thought back to a presentation he heard Silver give about his new microsphere adhesives. “So I made the bookmarks,” Fry said in an interview with NIHF. “Well, it turned out that they weren’t just bookmarks – they were really handy for self-attaching notes, labels and tapes.”

THE BIRTH OF POST-IT® NOTES

Fry’s realization that Silver’s adhesive microspheres were perfect for creating temporary notes would prove revolutionary. Within 3M, their team began writing messages to one another using prototype notes and collectively realized that they were on to something big.³ Though not everyone in the company saw value in the idea, Fry and his team continued to advocate for their product and in 1977, the removable notes were released in four cities under the name “Press n’ Peel.”

At first, the reception was lukewarm, but thanks to a massive marketing effort that placed the notes directly into the hands of consumers, paired with a rebranding campaign that produced the now iconic “Post-it Note” name, on April 6, 1980, Post-It Notes launched across the United States.⁴

This time, the success was immediate thanks to the product’s ease of use and ability to promote itself. “It was always a self-advertising product because customers would put the notes on documents they sent to others, arousing the recipient’s curiosity,” Fry said. “They would look at it, peel it off and play with it, and then go out and buy a pad for themselves.”⁵



NIHF Inductees Art Fry and Spencer Silver discuss the Post-it Note at 3M

1. Art Fry & Spencer Silver: Post-it® notes. Retrieved from <https://lemelson.mit.edu/resources/art-fry-spencer-silver>

2. Halford, B. (2004, April 5). What's that stuff - Sticky Notes. Retrieved from <https://pubsapp.acs.org/cen/whatstuff/stuff/8214sci3.html>

3. Glass, N., & Hume, T. (2013, April 4). The 'hallelujah moment' behind the invention of the Post-it note. Retrieved from <https://www.cnn.com/2013/04/04/tech/post-it-note-history/index.html>

4. History Timeline: Post it® Notes. Retrieved from https://www.post-it.com/3M/en_US/post-it/contact-us/about-us/

5. Ibid

INTELLECTUAL PROPERTY TRIANGULATION

Fast forward to today and with over 50 billion Post-it Notes sold each year, the product has become one of the most successful stationery items of all time.⁶ While the popularity of Post-it Notes might seem obvious to us today, it took 12 years of research and development for 3M to launch the iconic product.

Both during development and after the national launch in 1980, the company pursued an Intellectual Property Triangulation[®] strategy to both protect the science behind Post-it Notes and transform the brand into a household name.

Intellectual Property Triangulation is the combination of a design patent, a utility patent and a trademark. According to NIHF CEO Mike J. Oister, having these forms of protection offers three distinct benefits:

“When a company uses an Intellectual Property Triangulation strategy, they are able to maximize their protection power, significantly differentiate themselves in the marketplace and ultimately create more value.”

To improve the lives of as many people as possible, inventors often turn their inventions into marketable products. For Silver, the very process of innovation must include the final step of delivering a product to customers. “Innovation isn’t innovation until you have a product that you can deliver to the customer,” he said in an interview with NIHF. “When the customer is using it, then it’s an innovation.”

However, before companies can sell their products, they must make sure they are sufficiently protected from theft or unauthorized reproduction of their creation. Earning a United States patent grants patentees, “the right to exclude others from making, using, offering for sale, or selling the invention in the United States.”⁷ Typically, this protection lasts 20 years from the date of the filing, and in exchange for patenting a “new and useful process, machine, manufacture or composition of matter,” or a new and useful improvement of existing technology, the innovation is disclosed to the public.⁸ This disclosure enables the cycle of innovation to continue, and it allows for others to improve on these existing ideas – thereby creating entirely new industries and spurring economic growth.

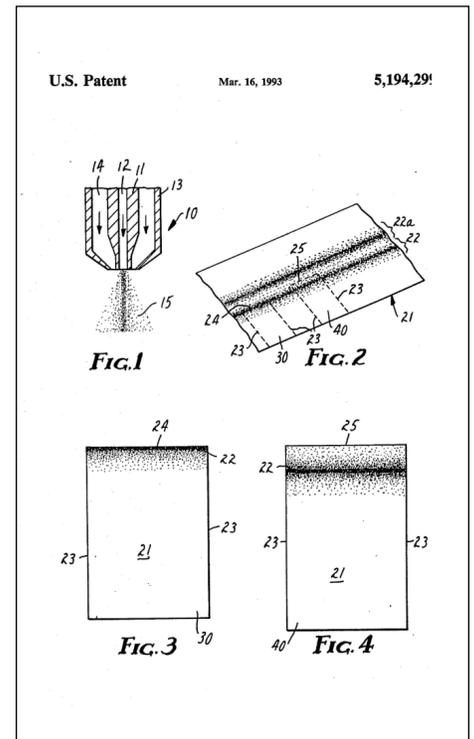
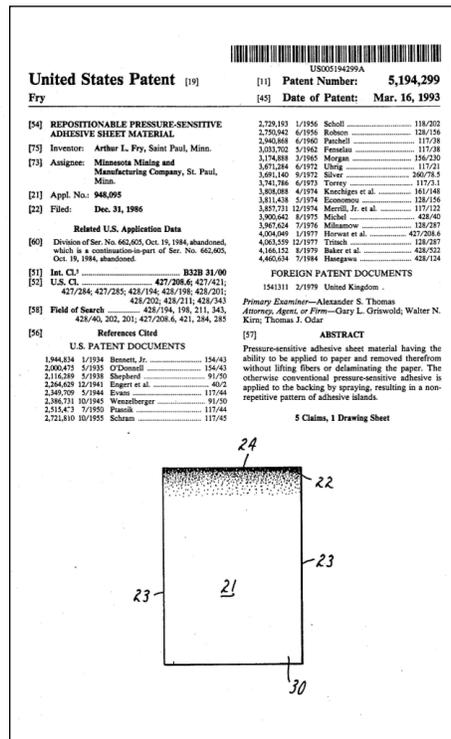
PROTECTING POST-IT[®] NOTES USING INTELLECTUAL PROPERTY TRIANGULATION

Utility Patents

On March 9, 1970, Spencer Silver filed a utility patent for his “acrylate copolymer microspheres.”⁹ Though it would be some years before he could find a use for this new adhesive technology, filing a patent assured Silver that this unique substance would be protected. Due to the novel characteristics of these “infusible, solvent-dispersible, solvent-insoluble, inherently tacky, elastomeric copolymer microspheres,” Silver’s patent application was accepted.

Applying specific proportions of Silver’s adhesive to the back of paper allowed the item to both stick to another surface and be easily removed without leaving behind a trail of residue.

While the Post-it Notes made their nationwide debut in 1980, the team continued innovating and on December 31, 1986 Fry earned a patent for “repositionable pressure-sensitive adhesive sheet material.”¹⁰



NIHF Inductee Art Fry's utility patent for "repositionable pressure-sensitive adhesive sheet material"

6. Glass, N., & Hume, T. (2013, April 4). The 'hallelujah moment' behind the invention of the Post-it note. Retrieved from <https://www.cnn.com/2013/04/04/tech/post-it-note-history/index.html>

7. General information concerning patents. (2015, October). Retrieved from <https://www.uspto.gov/patents/getting-started/general-information-concerning-patents#heading-2>

8. 2104 Inventions Patentable - Requirements of 35 U.S.C. 101 [R-08.2017]. (2018, January 24) Retrieved from <https://www.uspto.gov/web/offices/pac/mpep/s2104.html>

9. Silver, S. (1970, March 9). United States Patent - Acrylate Copolymer Microspheres. Retrieved from <https://bit.ly/38bkiOB>

10. Fry, A. (1993, March 16). United States Patent - Repositionable pressure-sensitive adhesive sheet material. Retrieved from <https://bit.ly/2sr9Naz>

Design Patents

In contrast to a utility patent that protects how an invention is used, design patents protect an invention's unique appearance. Though singular design patents are not very strong on their own, pairing them with utility patents (and/or additional design patents) can create a much stronger business position.¹¹

Due to the unprecedented popularity of Post-it Notes, 3M realized that it was in their best interest to design adhesive dispensers that customers could take with them or place on their desks. On December 1, 2000, 3M was awarded a design patent for this very purpose. Since that time, the company has gone on to develop many other designs specifically for their Post-it Notes line.

Trademarks

A trademark is a word, symbol or device used in trade to identify the source of what's being sold, and to differentiate between the goods of other companies.

In the case of 3M, the company applied for two trademarks relating to the Post-it brand: the "Canary Yellow" color filed on April 5, 1996, as well as the Post-it name filed on December 29, 1975.

According to Silver, the decision to produce the original Post-it Note using yellow paper was more or less a happy accident. Due to the popularity of yellow legal pads used by attorneys and lawyers, members of the 3M marketing team decided to give that color a try. 3M's website explains that the Canary Yellow color was chosen for an even more practical reason: the internal lab next door to the production facility only had yellow scrap paper in stock.



Art Fry visits with children at Camp Invention®

INTELLECTUAL PROPERTY SPURS INNOVATION

3M's Post-it Notes are a textbook example of how using Intellectual Property Triangulation can help inventors differentiate their products in an increasingly competitive global marketplace. Spurred by continued advances in STEM (science, technology, engineering and mathematics) fields, U.S. patent filings hit an all-time high in 2019 with 333,530 patents, a staggering 15% increase compared to 2018. For innovators of all ages, it's clear that an understanding of intellectual property has never been more important. NIHF's education programs embrace this reality and teach students and educators how intellectual property enables continued innovation worldwide.

The National Inventors Hall of Fame® does not offer legal advice. Please consult a legal professional when it comes to legal matters.

11. Quinn, G. (2015, July 25). Design Patents 101 - Protecting Appearance Not Function IPWatchdog.com: Patents & Patent Law. Retrieved from <https://www.ipwatchdog.com/2015/07/25/design-patents-101-protecting-appearance-not-function/id=59208/>

12. Sipinen, A. (2000, December 1). United States Patent - Package for dispensing sheets. Retrieved from <https://patents.google.com/patent/USD463975S1/en?inventor=Alan+J.+Sipinen&num=100>

13. USPTO Trademark - "Canary Yellow". (1996, April 5). Retrieved from http://tsdr.uspto.gov/#caseNumber=75087575&caseType=SERIAL_NO&searchType=statusSearch

14. USPTO Trademark - "POST-IT". (1975, December 29). Retrieved from <http://tmsearch.uspto.gov/bin/showfield?f=doc&state=4801:r9lqqg.2.20>

15. History Timeline: Post-it® Notes. Retrieved from https://www.post-it.com/3M/en_US/post-it/contact-us/about-us/

16. S, C. (2020, January 13). IFI CLAIMS Announces 2019 Top Global Patent Holders. Retrieved from <https://www.ificlaims.com/news/view/press-releases/ifi-claims-announces-4.htm>