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# First Person: 'We invented the Post-it Note'

By Art Fry and Spencer Silver. As told to Sarah Duguid

## Spencer Silver

When I finished my PhD in organic chemistry in 1966, I took a job with the company 3M to work in a team of five people researching pressure-sensitive adhesives. Adhesives are very different to glue. I am sensitive about the word glue.

Glue is a very simplistic term. You boil animal bones down and make something that sticks when it dries.

Adhesives are completely different. They rely on a complex structure of molecules to create their tack and elasticity. The size and structure of the molecules will affect how tacky the adhesive is, and how well it can be removed from whatever it is stuck to, known as peel adhesion. I thought of myself as a molecular architect.




US inventors Art Fry and Spencer Silver came up with the 'sticky note' that changed office life

As part of an experiment, I added more than the recommended amount of the chemical reactant that causes the molecules to polymerise. The result was quite astonishing. Instead of dissolving, the small particles that were produced dispersed in solvents. That was really novel and I began experimenting further. Eventually, I developed an adhesive that had high "tack" but low "peel" and was reusable. Using the adhesive, the company developed a bulletin board that remained permanently tacky so that notes could be stuck and removed. But I was frustrated. I felt my adhesive was so obviously unique that I began to give seminars throughout 3M in the hope I would spark an idea among its product developers.

## Art Fry

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I was at the second hole on the golf course, talking to the fellow next to me from the research department when he told me about Spencer Silver, a chemist who had developed an interesting adhesive. I decided to go to one of Spencer's seminars to learn more. I worked in the Tape Division Lab, where my job was to identify new products and build those ideas into businesses. I listened to the seminar and filed it away in my head.

One day I had a practical problem of my own. I used to sing in a church choir and my bookmark would always fall out, making me lose my place.

I needed one that would stick but not so hard that it would damage the book. The next morning, I went to find Spencer and got a sample of his adhesive. I made a bookmark and tried it out at choir practice; it didn't tear the pages but it left behind some adhesive. I needed to find a way to keep the particles of the adhesive anchored to the bookmark.

After a few experiments, I made a bookmark that didn't leave residue and tested it out on people in the company. They liked the product, but they weren't using them up very fast.

Then one day, I was writing a report and I cut out a bit of bookmark, wrote a question on it and stuck it on the front. My supervisor wrote his answer on the same paper, stuck it back on the front, and returned it to me. It was a eureka, head-flapping moment – I can still feel the excitement. I had my product: a sticky note.

We made samples to test out on the company and the results were dramatic. We had executives walking through knee-deep snow to get a replacement pad. It was going to be bigger than Magic Tape, my division's biggest seller. In 1977, we launched Post-it Notes in four cities. The results were disappointing and we realised we needed samples. People had to see how useful they were. Our first samples were given out in Boise, Idaho and feedback was 95 per cent intent to re-purchase. The Post-it Note was born.

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Other inventions by two people include wax crayons, invented at the turn of the century by Harold Smith and Edwin Binney, owners of

a paint factory in New York. The pair combined pigments and paraffin wax and launched Crayola crayons in 1903.

The Slinky Toy was invented in 1945 by Richard James and his wife Betty. US naval engineer Richard dropped a tension spring at work and noticed that it kept moving.

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