



Famous Inventors

There have been many inventions throughout the years to help people with disabilities live independently. Some inventors have had their own disability and created something to help themselves which ended up helping others. Other inventors have had a relative with a special need or seen a need in their community. Many inventions start out with one intended use and then are used by people with disabilities in ways the inventor never dreamed of. The following are just a few examples of inventions and their inventors.

Louis Braille (1809-1852)



Six dots. Six bumps. Six bumps in different patterns, like constellations, spreading out over the page. What are they? Numbers, letters, words. Who made this code? None other than Louis Braille, a French 12-year-old, who was also blind. And his work changed the world of reading and writing, forever.

Louis was from a small town called Coupvray, near Paris—he was born on January 4 in 1809. Louis became blind by accident, when he was 3 years old. Deep in his Dad's harness workshop, Louis tried to be like his Dad, but it went very wrong; he grabbed an awl, a sharp tool for making holes, and the tool slid and hurt his eye. The wound got infected, and the infection spread, and soon, Louis was blind in both eyes.

All of a sudden, Louis needed a new way to learn. He stayed at his old school for two more years, but he couldn't learn everything just by listening. Things were looking up when Louis got a scholarship to the Royal Institution for Blind Youth in Paris, when he was 10. But even there, most of the teachers just talked at the students. The library had 14 huge books with raised letters that were very hard to read. Louis was impatient.

Then in 1821, a former soldier named Charles Barbier visited the school. Barbier shared his invention called "night writing," a code of 12 raised dots that let soldiers share top-secret information on the battlefield without even having to speak. Unfortunately, the code was too hard for the soldiers, but not for 12-year-old Louis!

Louis trimmed Barbier's 12 dots into 6, ironed out the system by the time he was 15, then published the first-ever braille book in 1829. But did he stop there? No way! In 1837, he added symbols for math and music. But since the public was skeptical, blind students had to study braille on their own. Even at the Royal Institution, where Louis taught after he graduated, braille

wasn't taught until after his death. Braille began to spread worldwide in 1868, when a group of British men, now known as the Royal National Institute for the Blind, took up the cause.

Now practically every country in the world uses braille. Braille books have double-sided pages, which saves a lot of space. Braille signs help blind people get around in public spaces. And, most important, blind people can communicate independently, without needing print.

Louis proved that if you have the motivation, you can do incredible things.

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WHO INVENTED THE WHITE CANE FOR THE BLIND?

For centuries, the "cane" was used merely as a tool for travel and it was not until the twentieth century that the cane, as we know it today, was promoted for use by the blind as a symbol to alert others to the fact that an individual was blind. This new role for the white cane had its origins in the decades between the two World Wars, beginning in Europe and then spreading to North America. **James Biggs** of Bristol claimed to have invented the white cane in 1921. After an accident claimed his sight, the artist had to readjust to his environment. Feeling threatened by increased motor vehicle traffic around his home, Biggs decided to paint his walking stick white to make himself more visible to motorists.

www.4c1lions.org



WHO INVENTED THE WHEELCHAIR? by Maggie Koerth-Baker

However obvious it might be to us today, the elderly and disabled weren't always the target audience of wheelchair makers. Instead, these potentially life-changing devices often became a plaything, suited to the lifestyles of the rich and lazy. Philip II of Spain is remarkable for using a "rolling chair" around 1595. Essentially an elaborate, portable throne, the chair was made of wood, leather, and iron and included comfy footrests. Philip's chair was designed especially for him by a Flemish nobleman, but many advances in the evolution of the wheelchair were actually designed and built by the very people who needed them.

In 1655, paraplegic 22-year-old **Stephen Farfler** built himself what turned out to be more than just your average wheeled chair. A watchmaker by trade, Farfler parlayed his knowledge of cranks and cogwheels into the world's first chair capable of moving under its own power. This invention would have been extremely liberating, finally allowing people like Farfler to go about their day without having arranged for a friend to push them from place to place.



Another major advance in mobility, the folding chair, was also designed by a paraplegic. **Herbert Everest** was a mining engineer who'd been confined to a wheelchair later in life by an on-the-job accident. In 1933, he teamed up with a mechanical engineer named **Harold C. Jennings** to design a wheelchair that was lightweight and that could be folded up for easy auto transport. The result of their work was a 50-pound model built of tubular steel, a far cry from the massive wood and wicker monstrosities in use since the Civil War. Built on a collapsible X-shaped frame, the Everest & Jennings chair would become the industry standard for years to come. Better yet, in the 1950s, the two men were responsible for developing the first powered wheelchair. Run by a transistor-based electrical motor, the E & J powered chair was the first to make chairs both motorized and relatively lightweight. www.mentalfloss.com



WHO INVENTED VELCRO?

George de Mestral had an interesting encounter that led to the invention of Velcro. One day he came back from a nature hike and noticed many burrs sticking to his pants. With a burning curiosity he ran to his microscope and inspected one of the many burrs stuck to his pants. He saw all the small hooks that enabled the seed-bearing burr to cling so viciously to the tiny loops in the fabric of his pants. From this George de Mestral thought that he would design a unique two-sided fastener, one side with stiff hooks like the burrs and the other side with soft loops like the fabric of his pants. He decided to call his invention 'velcro' a combination of the word velour and crochet. He wanted it to rival the zipper in its ability to fasten.

Mestral's idea met with resistance and even laughter, but the inventor stuck by his invention. Together with a weaver from a textile plant in France, Mestral perfected his hook and loop fastener. By trial and error, he realized that nylon when sewn under infrared light, formed tough hooks for the burr side of the fastener. This finished the design, patented in 1955. The inventor formed Velcro Industries to manufacture his invention. Mestral was selling over sixty million yards of Velcro per year. Today it is a multi-million dollar industry. Velcro is the registered trademark for the Velcro Industries' product.

www.who-invented.org