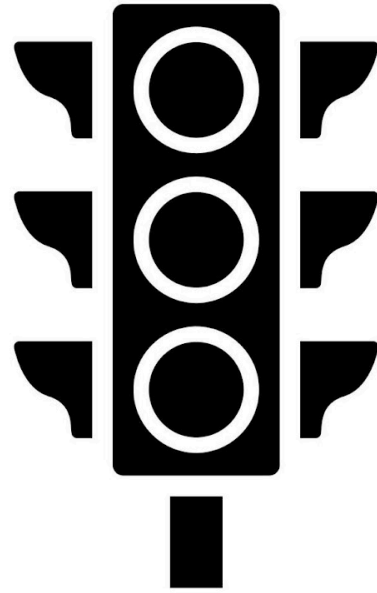
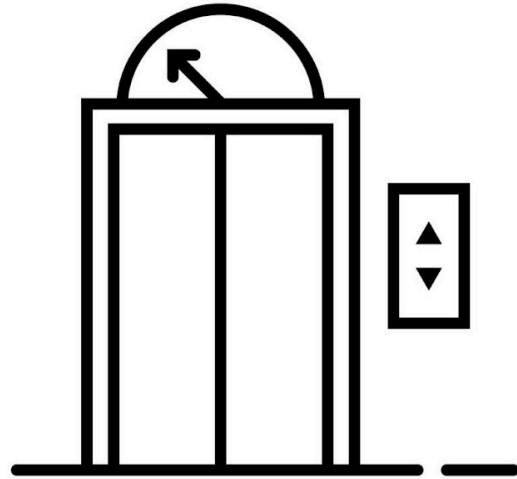
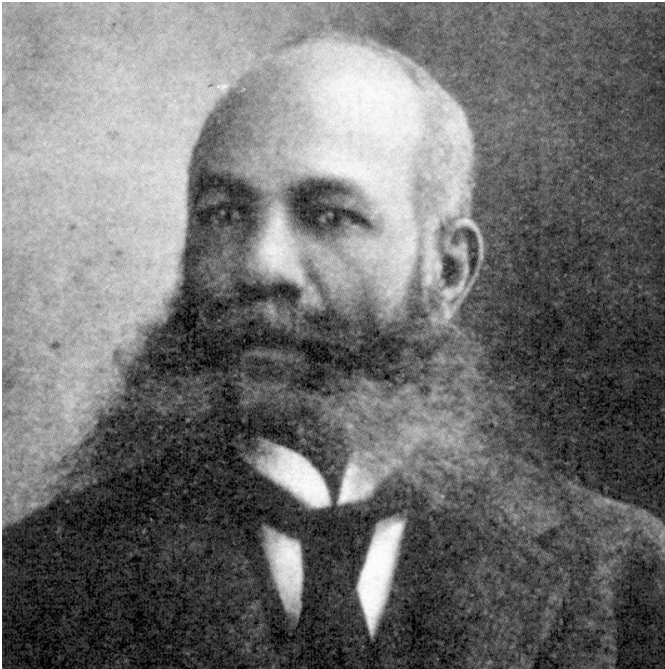


The Three-Light Traffic Signal, by Garrett Morgan in 1923



With only an elementary school education, Black inventor (and son of an enslaved parent), [Garrett Morgan](#) came up with several significant inventions, including an improved sewing machine and the gas mask. However, one of Morgan's most influential inventions was the improved traffic light. Morgan's was one of the first three-light systems that were invented in the 1920s, resulting in the widespread adoption of the traffic lights we take for granted today.

Automatic Elevator Doors, by Alexander Miles in 1887



Before automatic doors, people had to manually shut both the shaft and elevator doors before riding. Forgetting to do so led to multiple accidents as people fell down elevator shafts. As the story goes, when the daughter of African American inventor Alexander Miles almost fatally fell down the shaft, he took it upon himself to develop a solution. In 1887 he took out a patent for a mechanism that automatically opens and closes elevator shaft doors and his designs are largely reflected in elevators used today.

Carbon Light Bulb Filament, Invented by Lewis Latimer in 1881



The light bulb itself was perfected by [Thomas Edison](#), but the innovation used to create longer-lasting light bulbs with a carbon filament came from African American inventor [Lewis Latimer](#). Latimer, the son of formerly enslaved people, began work in a patent law firm after serving in the military for the Union during the [Civil War](#). He was recognized for his talent in drafting patents and was promoted to head draftsman, where he co-invented an improved bathroom for railroad trains.

Home Security System

African American inventor Marie Van Brittan Brown was born in 1922 in Jamaica, Queens, New York. She started off her career working as a nurse. Her husband, Albert Brown, was an electronics technician. As a nurse, Brown worked long hours and would return home late at night. Her husband, too, had irregular hours so she was often alone at night. Fearful of being vulnerable in a high crime neighborhood, Brown decided to figure out a way to see who was at her door if she heard knocking.

In 1966, Brown, along with the assistance of her husband, invented a security system which consisted of four peepholes, a sliding camera, television monitors, and two-way microphones. These items created a closed-circuit television system for surveillance also known as CCTV. With multiple peepholes, the sliding camera was able to capture images of people who were different heights. The two-way microphones allowed Brown to communicate with the person outside. She also had a remote that would allow her to unlock the door at a safer distance. Lastly, she could press an emergency button that would send an alarm to police or security.



Marie van Brittan Brown

Three Dimensional Imaging

Valerie Thomas (born February 8, 1943, [Baltimore, Maryland](#), U.S.) is an American scientist and inventor who, while working at the [National Aeronautics and Space Administration](#) (NASA), invented a way to [transmit](#) three-dimensional images, or [holograms](#), that appear to be real. In addition, she helped to develop processing software to convert scientific data captured by satellites into information that scientists could use.



DOROTHY JOHNSON VAUGHAN

B o r n: September 20, 1910

D i e d: November 10, 2008

O c c u p a t i o n: NASA mathematician



Dorothy Vaughan's mathematical mind helped pave the way to launch satellites into space.

PHOTO COURTESY OF NASA

Known as a “human computer,” **Dorothy Johnson Vaughan** was part of a team that did mathematical calculations to help launch satellites—and later humans—into space. The group used math to help engineers figure out how wind and gravity affects aircrafts.

When she was first hired to work on the space program, Vaughan’s department was segregated, or separated, by race. She and the other African-American women in her unit used separate dining areas and bathrooms. Six years after she was hired, Vaughan became the manager of her division and its first Black supervisor.

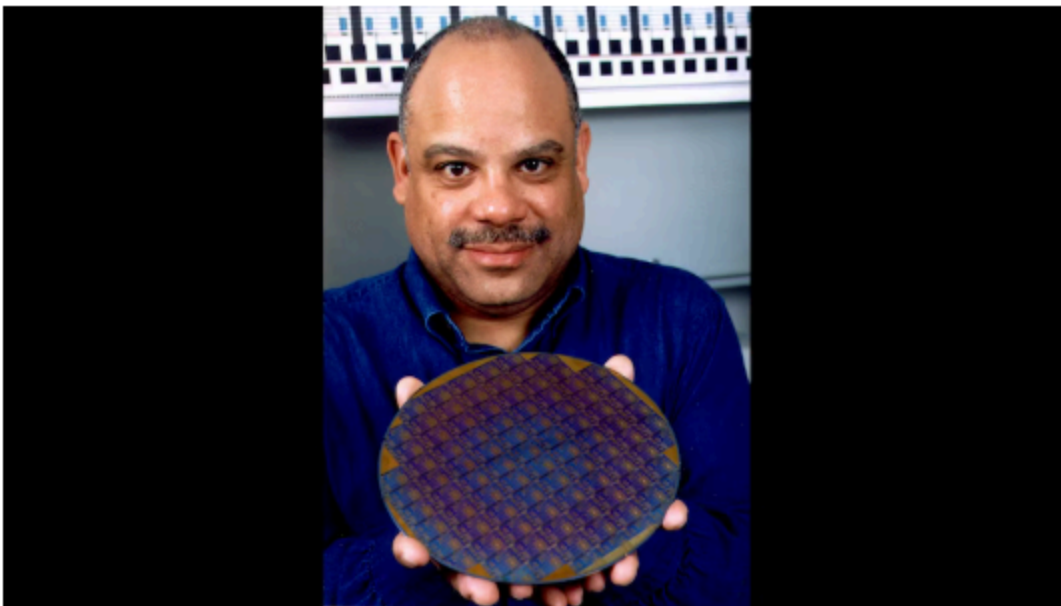
MARK E. DEAN

B o r n: March 2, 1957

O c c u p a t i o n: Computer engineer

Mark E. Dean is one of the top engineering minds at the International Business Machines (IBM) Corporation. He made his first mark in the industry in the early 1980s, when he and a colleague developed a system that allowed computers to communicate with printers and other devices. Every time you print something, you can thank Dean.

In all, Dean holds 20 patents, and was honored as one of the "50 Most Important African Americans in Technology" by the California African-American Museum in 2000. Dean wants to help increase awareness of the contributions of Black engineers to both the engineering industry and the African-American community.



Benjamin Banneker

Invented America's First Clock



In the Stevie Wonder song "Black Man," the Motown marvel sings of Benjamin Banneker: "first clock to be made in America was created by a black man." Though the song is a fitting salute to a great inventor (and African Americans in general), it only touches on the genius of Benjamin Banneker and the many hats he wore – as a farmer, mathematician, astronomer, author and land surveyor.

Like a lot of early inventors, Benjamin Banneker was primarily self-taught. The son of former slaves, Benjamin worked on the family tobacco farm and received some early education from a Quaker school. But most of his advanced knowledge came from reading, reading and more reading. At 15 he took over the farm and invented an irrigation system to control water flow to the crops from nearby springs. As a result of Banneker's innovation, the farm flourished – even during droughts.

But it was his clock invention that really propelled the reputation of Benjamin Banneker. Sometime in the early 1750s, Benjamin borrowed a pocket watch from a wealthy acquaintance, took the watch apart and studied its components. After returning the watch, he created a fully functioning clock entirely out of carved wooden pieces. The clock was amazingly precise, and would keep on ticking for decades. As the result of the attention his self-made clock received, Banneker was able to start up his own watch and clock repair business.

Dr. Shirley Ann Jackson

Telecommunications Research



Dr. Shirley Ann Jackson, a theoretical physicist and famous black inventor, has been credited with making many advances in science. She first developed an interest in science and mathematics during her childhood and conducted experiments and studies, such as those on the eating habits of honeybees. She followed this interest to the Massachusetts Institute of Technology (MIT) where she received a bachelor, and doctoral degree, all in the field of physics. In doing so she became the first African-American woman to earn a Ph.D. from MIT.

Jackson conducted successful experiments in theoretical physics and used her knowledge of physics to foster advances in telecommunications research while working at Bell Laboratories. Dr. Jackson conducted breakthrough basic scientific research that enabled others to invent the portable fax, touch tone telephone, solar cells, fiber optic cables, and the technology behind caller ID and call waiting.

Frederick McKinley Jones

Refrigerator Inventions



Anytime you see a truck on the highway transporting refrigerated or frozen food, you're seeing the work of Frederick McKinley Jones.

One of the most prolific Black inventors ever, Jones patented more than 60 inventions in his lifetime. While more than 40 of those patents were in the field of refrigeration, Jones is most famous for inventing an automatic refrigeration system for long haul trucks and railroad cars.

Before Jones' invention, the only way to keep food cool in trucks was to load them with ice. Jones was inspired to invent the system after talking with a truck driver who lost his whole cargo of chicken because he couldn't reach his destination before the ice melted. As a solution, the African-American inventor developed a roof-mounted cooling system to make sure food stayed fresh.

In addition to that refrigerator invention, Jones also invented an air-conditioning unit for military field hospitals, a refrigerator for military field kitchens, a self-starting gas engine, a series of devices for movie projectors and box-office equipment that gave tickets and made change. Jones was posthumously awarded the National Medal of Technology in 1991 – the first Black inventor to ever receive such an honor.

