Charles S.L. Baker

Charles S.L. Baker was born in Savannah, Missouri on August 3, 1859 and was raised by his father after his mother died prior to his first birthday. Baker did not have any formal education in engineering; he was a self-taught mechanical engineer. The end of the Civil War marked the end of Baker's enslavement and at age 15, and Baker began a job with a delivery service. It was through this work experience that Baker realized his love for mechanical sciences due to his exposure to wagons and linchpins.

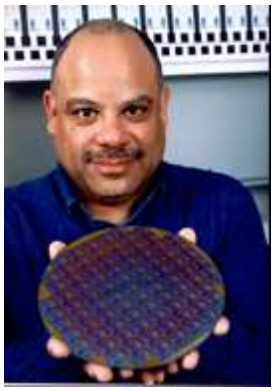
While working with the mechanics of the horse-drawn wagons, he became curious as to how heat was produced through friction. Some say he was fascinated by friction because through the process one could generate heat without necessarily tapping into a heat source.

On January 13, 1903, Baker invented and patented a radiator that heats up with friction rather than with a fuel source. This was no small feat, as it took about 23 years for him to experiment with different types of metals and friction forms before he could come up with his friction heater.

The friction heat radiator was a green-energy option. If these devices were still in production today, they would not cause harm to the environment. Baker's device was made up of two metal cylinders, with one inserted into the other. A wooden spinning core was put in the center to produce the friction. His invention created an alternative means of producing heat without combustion (the burning off of a fuel source). During his patent application, Baker stated that the friction heat could be produced with any mode of power like wind, water and gasoline.

Baker created a factory called The Friction Heat and Boiler Company in 1904. His company employed 50 skilled and unskilled labor to produce more radiators and had about $136,000 in capital stocks. At the time, Baker's capital stock was a lot of money which made him an affluent and honorable man in his hometown. His loyalty to his employees made his business thrive albeit racial prejudice which sometimes posed as a threat to his finances. Despite these obstacles, his business flourished!

Mark Dean



Dean is one of technology's top innovators. This computer engineer helped design the IBM personal computer, introduced in 1981, that became a staple on desktops. He, along with co-inventor and IBM colleague Dennis Moeller, helped develop the interior hardware that would allow computers to connect to various peripherals, such as printers and monitors. Ironically, the man who helped make the PC popular is now using only tablets, noting in a blog post, "When I helped design the PC, I didn't think I'd live long enough to witness its decline."

Fred Gregory

Fred Gregory was an Air Force Academy graduate and flew helicopter missions during the Vietnam War. He transitioned to fighter aircraft and attended the Navy Test Pilot school. He furthered his education by attending George Washington University, receiving a master's degree in Information Systems.

Gregory was selected as an astronaut in January 1978. In 1989, **Gregory became the first African-American to command a space flight.** The mission carried Department of Defense payloads and other secondary payloads. After 79 orbits of the Earth, this five-day mission concluded on November 27, 1989.

Gregory served at NASA Headquarters as Associate Administrator for the Office of Safety and Mission Assurance (1992–2001), and was Associate Administrator for the Office of Space Flight (2001–2002). On August 12, 2002 Mr. Gregory was sworn in as NASA Deputy Administrator. In that role, he was responsible to the Administrator for providing overall leadership, planning, and policy direction for the Agency. After a successful career, he eventually stepped away from NASA duties in 2005.

Marc Hannah

Anyone amazed by the special effects showcased in modern day movies should thank Hannah. The computer scientist is one of the founders, in 1982, of the software firm Silicon Graphics (now SGI), where the special-effects genius developed 3-D graphics technology that would be used in many Hollywood movies. Donkey Kong fans also owe a debt of gratitude to Hannah as he was instrumental in designing the Nintendo 64 gaming system.

Shirley A. Jackson

Jackson is known for her innovative work in theoretical physics and semiconductor theory. In 1995, U.S. President Bill Clinton appointed the physicist chairwoman of the U.S. Nuclear Regulatory Commission, making her the first woman and first African American to hold this prestigious position. In 2002, Discover Magazine named her one of the 50 Most Important Women in Science.

Dr. Mae Jemison

Mae Jemison is an American physician and the first African American woman to become an astronaut. In 1992 she spent more than a week orbiting Earth in the space shuttle Endeavour.

Mae Jemison received degrees in chemical engineering and African American studies (1977) from Stanford University. She entered medical school at Cornell University, where she pursued an interest in international medicine. After volunteering in a Cambodian refugee camp in Thailand, Jemison studied in Kenya in 1979 and graduated from medical school in 1981.

Jemison applied to the National Aeronautics and Space Administration (NASA) to be an astronaut. In October 1986, she was 1 of 15 accepted out of 2,000 applicants. Jemison completed her training as a mission specialist with NASA in 1988. Jemison's maiden space flight came with the weeklong September 1992

mission of the shuttle Endeavour. At that time she was the only African American woman astronaut. After completing her NASA mission, she formed the Jemison Group to develop and market advanced technologies.

Katherine Johnson

Katherine Johnson was an American mathematician whose calculations of orbital mechanics as a NASA employee were critical to the success of the first and subsequent U.S. crewed spaceflights. During her 35-year career at NASA and its predecessor, she earned a reputation for mastering complex manual calculations and helped pioneer the use of computers to perform the tasks. The space agency noted her "historical role as one of the first African-American women to work as a NASA scientist".

Her impact on our modern technology is depicted in the movie "Hidden Figures".

Gerald A. Lawson

Anyone who owns a Sony Playstation, Nintendo Switch, or Xbox should know Lawson's name. He created the first home video game system that used interchangeable cartridges, offering gamers a chance to play a variety of games. This approach also gave video game makers a way to earn profits by selling individual games, a business model that exists today. Lawson, who died in 2011 at age 70, was just beginning to be recognized by the gaming industry for his pioneering work prior to his death.

Garrett Morgan

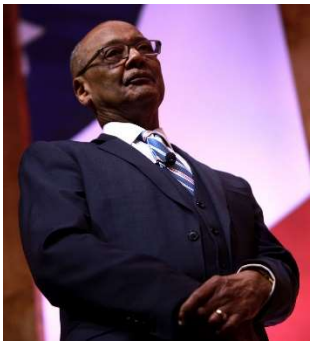
After witnessing an accident between a horse-drawn carriage and an automobile, Morgan had an idea. His three-position traffic signal, patented in 1923, helped save lives at a time when cars, horses, and pedestrians all shared the road. But this wasn't even his most famous invention. Morgan received a patent in 1912 for

his safety hood and smoke protector (a precursor to today's gas mask). His forward thinking led to saving the lives of countless people across the globe.

Valerie Thomas

In an era when girls weren't even encouraged to study math and science (a problem that still persists in the US today), Thomas eagerly sought information about technology. She would eventually earn a degree in physics and land a job at NASA in the mid-1960s, where she would work into the 1990s. In 1980 she received a patent for the illusion transmitter, an early form of 3-D technology. Uses for the technology have yet to be fully realized, but with the increased interest in 3-D, her work will surely be an integral part of the future.

Robert (Bob) Woodson



Robert (Bob) Woodson is an American civil rights activist, community development leader, author, and founder and president of the Woodson Center. The Woodson Center is a nonprofit, nonpartisan research and demonstration organization that supports neighborhood-based initiatives to revitalize low-income communities. The efforts of his organization are helping fight poverty in our nation.

The mission of his foundation is to transform lives, schools, and troubled neighborhoods, from the inside out. Current programs are the Violence-Free Zone youth violence reduction program; Training and Technical Assistance for Community-Based Organizations; and Adult Financial Literacy.