Article

African-American Inventors II

19th Century

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Friday, January 21, 2011

African Americans established a strong history of inventing products and tools in the 18th century. During the 19th century, before and after slavery was abolished, black inventors continued to have a great influence on the United States.

Andrew J. Beard

Andrew Jackson Beard (1849–1921) was born into slavery in Alabama and gained his freedom when he was fifteen. He invented his own flour mill, a rotary steam engine, and two kinds of plows before he went to work for the railroad in the 1890s.

Railroads connected the busy east coast of the United States with the frontier states in the west. They transformed communication and travel. Working for various rail companies, Beard created his most famous invention, the Jenny coupler. The Jenny coupler automatically locked train cars together when they bumped into each other. This made connecting long trains for travel and trade much easier. Before the invention of the Jenny coupler, workers had to insert a metal pin to link the cars as they came together. It was very dangerous work, and Beard saw and heard about many gruesome accidents. The Jenny coupler was an invention that saved the lives of countless railroad workers.

Henry Blair

Henry Blair (1804–1860) is the first black man to be identified on a U.S. patent application. The identification of Blair as black was an accident, as the U.S. Patent Office usually didn't identify patent holders by race.

Very little is known about Henry Blair, other than he must have been a free black man. Slaves weren't allowed to hold patents. Blair was awarded the patent in 1834 for a corn planter. The corn planter combined plowing, placing the seeds, and covering the seeds with soil. Blair was awarded a second patent for a cotton seed planter in 1836.

Solomon Brown

Solomon Brown (1829–1906) worked with Samuel Morse on the telegraph machine, which revolutionized communication in the 19th century. Brown installed the wires and made sure the telegraph worked properly.

Brown was also the first African American to be hired by the Smithsonian Institute in Washington, D.C. Using his own drawings, Brown gave talks on entomology, geology, philosophy, and religion to packed houses for several decades.

Hugh M. Browne

Hugh Mason Browne (1851–1923) was an educator who worked with such prominent African Americans as Booker T. Washington, W. E. B. DuBois, and Charles Chesnutt. Browne was especially concerned with education, and traveled to Liberia to compare the education system there to the one in the United States.

Browne was also a practical man, interested in improving the lives of everyday people. He invented a machine that trapped sewer water and stopped it from flowing back into a house. This helped residents live healthier lives. Browne was granted the patent on April 29, 1890.

George Washington Carver

George Washington Carver (1864?–1943) was an agricultural chemist famous for improving the lives of poor farmers through new farming methods.

During much of the 19th century, Southern farmers planted cotton year after year, which depleted the soil of vital nutrients. Carver's experiments found the peanut plant restored nitrogen to the topsoil and made it healthy again. Planting peanuts one year and cotton the next increased the life of the soil. This planting process is called crop rotation.

Carver's cotton-peanut crop rotation created peanut surpluses—more peanuts than people had need for them. Carver found new uses for peanuts and peanut products, including soap, face powder, mayonnaise, shampoo, metal polish, and glue.

Later, Carver discovered that sweet potatoes and peas had the same nitrogen-fixing abilities as peanuts. This profitable crop rotation allowed farmers to maintain soil fertility. Carver was awarded two peanut-related patents: one for pomade or cream (Patent no. 1,522,176 January 6, 1925) and one for a paint or stain (Patent no. 1,541,478 June 9, 1925).

Shelby Davidson

Shelby Davidson (1868–1931) worked for the United States Postal Service. He did not deliver mail, however. He worked in the auditing department, keeping track of numbers and schedules. Davidson invented a rewind device for adding machines in 1908. The rewind device reduced the amount of paper and time clerical workers spent on paperwork. Davidson also invented an automatic fee device in 1911 that allowed postal workers to work more efficiently.

Lewis Latimer

Lewis Latimer (1848–1928) was a member of Thomas Edison's research team and became the head draftsman for General Electric.

A draftsman is a person who draws pictures of buildings, machinery, or inventions. These drawings can determine the success or failure of the patent application. Latimer did the draft work for Alexander Graham Bell's telephone; Bell received his patent in 1876.

In 1882, Latimer invented a carbon filament to use in light bulbs. It lasted longer and was cheaper than Edison's first design. Edison's company hired Latimer soon after.

Latimer also designed a bathroom for railroad cars, a disinfecting and cooling device, a hat and coat rack, locking umbrellas, and a device for supporting books.

Jan Ernst Matzeliger

Jan Ernst Matzeliger (1852–1889) invented a machine to connect the upper part of the shoe with its sole. This

process is called lasting. Matzeliger's shoe lasting machine could make 150 to 700 pairs of shoes in one day, compared to 50 pairs a day lasted by hand.

George Washington Murray
George Washington Murray (1853–1926) held eight patents relating to farming. Born a slave, Murray was elected to the U.S. House of Representatives from South Carolina in 1892.

George Washington Murray is an ancestor of Rep. Jim Clyburn, a current member of the U.S. House of Representatives from South Carolina.

John Parker
John Parker (1827–1900) owned three of the seventy-seven patents issued to African Americans by 1886. He was only one out of fifty-five African Americans to be granted more than one patent in the U.S. by 1900. He is best known for patenting a portable tobacco screw press. This was used for cutting tobacco.

Parker was also a "conductor" on the Underground Railroad. From his home in Ripley, Ohio, Parker helped more than one thousand slaves receive their freedom.

Norbert Rillieux
Norbert Rillieux (1806–1894) was a Creole inventor from New Orleans. He studied in Paris, France, before returning to the U.S.

Rillieux's father was the owner of a large plantation, where sugar was often grown. Rillieux invented the multiple-effect vacuum evaporator for refining sugar. His invention produced a whiter, more refined sugar with less labor. Rillieux's refining process was eventually extended to all evaporating processes—including condensed milk, gelatin, soap, glue, and whiskey.

Samuel Scottron
Samuel Scottron (1843–1905) invented an adjustable mirror so that barbershop clients could examine their haircuts from every angle.

From the barbershop, Scottron branched out into inventions for the home. He invented the adjustable window cornice, a pole tip, a curtain rod, and a supporting bracket. (A cornice is an attractive window overhang that's used to hide the curtain rod.) Scottron was the first African American to be a member of the Brooklyn, New York, Board of Education and was a co-founder of the Cuban Anti-Slavery Society.

Lewis Temple
Lewis Temple (1800–1854) redesigned a harpoon, a device for hunting whales, in 1845. Called "Temple's Iron," his invention hooked the whale onto the line much like a fish on a hook. His invention led to more whales being caught and killed. During the 19th century, New England was the center of the whaling industry. "Temple's Iron" helped create a thriving economic community in places like New Bedford, Massachusetts.

Sarah Breedlove Walker
Sarah Breedlove Walker (1867–1919), also known as Madame C. J. Walker, is probably the most famous African American woman inventor.

Walker invented the hot comb and a pomade to make hair soft and shiny. Before the hot comb, African Americans straightened their hair on ironing boards. Many people had burns on the face and scalp, as well as damaged hair, because of this. Walker revolutionized the African American cosmetics industry.

To increase business for her beauty products, Madame C. J. Walker organized saleswomen into "Walker Clubs," a

system copied later by Mary Kay Cosmetics. In 1908, she founded Lelia College in Pittsburgh, Pennsylvania, to train women to sell her products.

This marketing system worked very well. Walker became the first African American woman millionaire. She employed 3,000 people in her Indianapolis, Indiana, factory. Madam C. J. Walker gave generously to the National Association for the Advancement of Colored Persons (NAACP) and other nonprofit groups or charities. She also funded scholarships for women to go to college.

Granville T. Woods

Granville T. Woods (1856–1910) was nicknamed "The Black Edison" for the number of inventions he built and patented. Like Edison, Woods' inventions were not focused on one industry.

Woods earned his first patent in 1884 for a steam boiler. He also invented a system for railroad braking, electric railroad systems, and devices to improve the telephone and telegraph. The telephone and telegraph patents were bought by Alexander Graham Bell's company.

In 1887, Woods invented the Synchronous Multiplex Railway Telegraph. It allowed railroad workers to know where the trains were on the railway. Before this no one knew precisely when a train was coming down the tracks. Woods's invention prevented many collisions and deaths. He registered twenty patents between 1900 and 1907 for electronic train control devices.

VOCABULARY

Term	Part of Speech	Definition
abolish	*verb*	to wipe out or get rid of.
agriculture	*noun*	the art and science of cultivating the land for growing crops (farming) or raising livestock (ranching).
Alexander Graham Bell	*noun*	(1847-1922) American inventor of the telephone.
Andrew Jackson Beard	*noun*	(1849-1921) American inventor best known for creating a device that lets train cars automatically connect to each other.
audit	*noun, verb*	an examination of finances.
Board of Education	*noun*	group of elected officials who decide educational policy for school districts.
Booker T. Washington	*noun*	(1856-1915) American reformer and educator.
bracket	*noun*	device used to hold two separate pieces together.
carbon	*noun*	chemical element with the symbol C, which forms the basis of all known life.
charity	*noun*	organization that helps those in need.
Charles Chesnutt	*noun*	(1858-1932) American civil rights leader and author.
chemist	*noun*	person who studies the theory and application of atoms and molecules, and their relationships and interactions.
clerical	*adjective*	administrative or secretarial.
communication	*noun*	sharing of information and ideas.

condensed milk	*noun*	milk with water removed and sugar or another sweetener added.
cornice	*noun*	window feature used to hide a curtain rod.
cosmetics	*noun*	substances applied to the body to make it appear more attractive.
Creole	*noun*	people and culture of the Native American, French, Caribbean, African, and Spanish settlers of the American Gulf Coast, especially the state of Louisiana.
crop rotation	*noun*	the system of changing the type of crop in a field over time, mainly to preserve the productivity of the soil.
deplete	*verb*	to use up.
disinfect	*verb*	to clean and remove harmful microorganisms.
draftsman	*noun*	person who draws (drafts) detailed pictures of how machinery or engineering plans will work.
entomology	*noun*	the study of insects.
farmer	*noun*	person who cultivates land and raises crops.
fee	*noun*	price or cost.
fertility	*noun*	capacity of soil to sustain plant growth; or the average number of children born to women in a given population.
filament	*noun*	very thin fiber or thread-like structure.
flour mill	*noun*	device that grinds wheat into flour.
frontier	*noun*	largely unpopulated area that is slowly being opened up for settlement.
gelatin	*noun*	colorless substance, used for cooking and pharmaceuticals, that dissolves easily, made from prepared skin, marrow, and bones of animals.
geology	*noun*	study of the physical history of the Earth, its composition, its structure, and the processes that form and change it.
George Washington Carver	*noun*	(1864-1943) American chemist and inventor who found hundreds of uses for peanuts.
Granville T. Woods	*noun*	(1856-1910) American inventor nicknamed the "Black Edison."
gruesome	*adjective*	gross or violent.
harpoon	*noun*	long, sharp tool mostly used for hunting whales and large ocean fish.
Inca	*noun*	people and culture native to the Andes Mountains and Pacific coast of South America.
Jenny coupler	*noun*	device that automatically connected train cars when they bumped into each other.
lasting	*noun*	shoemaking process of connecting the sole to the upper part of the shoe.
lubricate	*verb*	to apply with grease or oil.
Madame C. J. Walker	*noun*	(1867-1919) (Sarah Breedlove Walker) American businesswoman and inventor.

manual	*adjective*	done by a person, not a machine.
marketing	*noun*	art and science of selling a product.
millionaire	*noun*	person who has at least $1 million.
nitrogen	*noun*	chemical element with the symbol N, whose gas form is 78% of the Earth's atmosphere.
nutrient	*noun*	substance an organism needs for energy, growth, and life.
philosophy	*noun*	the study of the basic principles of knowledge.
plantation	*noun*	large estate or farm involving large landholdings and many workers.
plow	*noun, verb*	tool used for cutting, lifting, and turning the soil in preparation for planting.
pomade	*noun*	waxy or oily treatment for softening and straightening hair.
profitable	*adjective*	able to make money.
railroad	*noun*	road constructed with metal tracks on which trains travel.
Real McCoy	*noun*	authentic or genuine.
refine	*verb*	to make more pure or clean.
religion	*noun*	a system of spiritual or supernatural belief.
rotary steam engine	*noun*	machine that creates power by steam turning a rotating device.
Samuel Morse	*noun*	(1791-1872) American inventor and artist.
scalp	*noun*	skin on the head beneath the hair.
scholarship	*noun*	award that provides money toward an individual's education.
screw press	*noun*	machine that changes the shape of an object by screwing another object on it or with it, either with a handle or wheel.
sewer	*noun*	passageway or holding tank for liquid waste.
Smithsonian	*noun*	educational and cultural facility with 19 museums.
surplus	*noun*	more than what is needed or wanted.
telegraph	*noun*	system of communication involving devices connected through electrical wires.
Thomas Edison	*noun*	(1847-1931) American inventor and businessman, best known for inventing the electric lamp.
tobacco	*noun*	plant whose leaves are smoked or chewed as a mild narcotic.
topsoil	*noun*	the most valuable, upper layer of soil, where most nutrients are found.
travel	*noun*	movement from one place to another.
Underground Railroad	*noun*	system used by abolitionists between 1800-1865 to help American slaves escape to free states.
vacuum evaporator	*noun*	machine that forces liquid inside a container to evaporate at a lower temperature than normal.
W. E. B. DuBois	*noun*	(1868-1963) American civil rights leader and educator.

whiskey	*noun*	alcoholic beverage made from grain.

For Further Exploration

Articles & Profiles

- National Geographic Kids: Black Inventors and Pioneers of Science

Websites

- National Organization for the Professional Advancement of Black Chemists and Chemical Engineers
- University of California at Irvine: Index of African American Inventors