
For women's history month, we're honoring female innovators whose contributions have made modern life possible for millions of Americans.

Maria E. Beasley, 1836-1913

The infographic features a purple background. On the right is a 3D illustration of an orange and yellow inflatable life raft with two black seats and a black motor at the rear. On the left, there is a circular portrait of Maria E. Beasley wearing a blue hat and coat. Text and chemical structures are arranged around the portrait and raft. The word 'polyurethane' is written in white, with 'DURABLE, LIGHTWEIGHT, WATERPROOF' below it. Two chemical structures are shown: benzene (a hexagon with a circle inside) and ethylene (two carbons connected by a double bond). The word 'nylon' is written in white, with 'DURABLE' below it. Two chemical structures are shown: benzene (a hexagon with a circle inside) and butadiene (two carbons connected by a double bond, with two single bonds extending from the other two carbons). The name 'Maria E. Beasley' is written in large white letters, with 'INVENTOR OF THE LIFE RAFT' below it in smaller white letters. The letters 'AFPM' are visible on the side of the raft's motor.

polyurethane
DURABLE, LIGHTWEIGHT, WATERPROOF

benzene ethylene

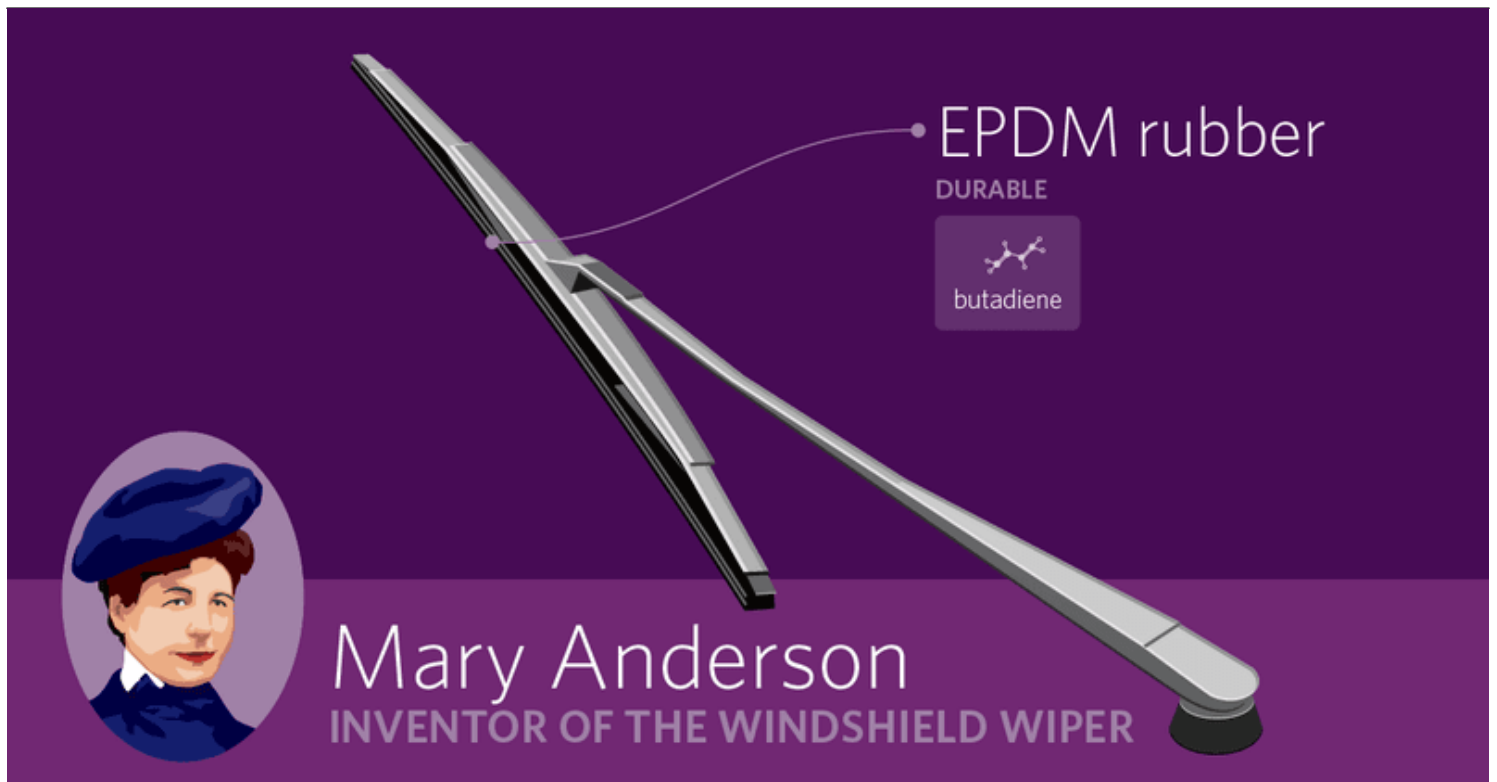
nylon
DURABLE

benzene butadiene

Maria E. Beasley
INVENTOR OF THE LIFE RAFT

In 1882, Maria Beasley secured the patent for a life raft. Her original design featured collapsible metal floats and airtight containers, which allowed for the raft to be stored easily and readily available in case of an emergency. Her designs laid the foundation for modern life rafts, which use polyurethane and nylon for durability and waterproofing. Throughout her career, Beasley would secure an impressive 15 patents, many of which focused on improving transportation safety. Historians credit Beasley's inventions with saving "an uncountable number of lives".


Mary Anderson, 1866-1953




In the early 1900's, Mary Anderson was visiting New York City when she took a cab to get out of the snow. The driver routinely got out of the car to clean off the windshield, causing road delays. After returning home to Alabama, Anderson sketched up a prototype for the first-ever windshield wiper. Her original design featured wood and rubber attached to a string that the driver could pull to clear off the windshield. Beasley was awarded the patent in 1903 and was later inducted into the National Inventors Hall of Fame in 2011. Today, most windshield wipers use EPDM rubber as it offers more durability for the wiper blade.

Madam C.J. Walker, 1867-1919


polyethylene
LIGHTWEIGHT, DURABLE, FLEXIBLE



ethylene



Madam C.J. Walker
FIRST SELF-MADE FEMALE MILLIONAIRE



Madam C.J. Walker, born Sarah Breedlove, suffered from a scalp ailment that resulted in hair loss. After experimenting with both home remedies and store-bought haircare, Breedlove developed her own line of haircare that was specifically tailored to the curls and texture of black women's hair. Breedlove traveled the country with her products, teaching women the "Walker Method" to enhance — not change — the appearance of natural hair. The Madam C.J. Walker Manufacturing Company was wildly successful, with profits in the modern-day equivalent of several million dollars. Breedlove became the first self-made American female millionaire. Today's haircare manufacturers rely on polyethylene to package the haircare products that millions of Americans use every day.

Mary Sherman Morgan, 1921-2004

The infographic features a stylized illustration of a rocket engine with orange and grey components. A circular inset on the left shows a portrait of Mary Sherman Morgan, a woman with short dark hair and glasses, wearing a green top. To the right of the engine, the text 'RP-1' is displayed in a large font, with 'LONGER BURN, MORE THRUST' underneath. Below this is a chemical structure diagram of kerosene, consisting of a long hydrocarbon chain, with the word 'kerosene' written below it. At the bottom of the infographic, the name 'Mary Sherman Morgan' is written in a large, white, serif font, with the subtitle 'FUELED FIRST AMERICAN SATELLITE INTO SPACE' in a smaller, white, sans-serif font below it.

Raised on a rural farm in North Dakota, Mary Sherman Morgan didn't start attending school until age 8. After graduating high school at 19, she ran away to attend Minot State University. Morgan fell just short of graduating, having accepted a job as a chemist to support the war effort. Her thorough understanding of thermodynamics and chemistry led her to develop hydine, the blend of fuel and oxidizer used to power American rockets during the Space Race, namely the Jupiter-C rocket that put Explorer 1 into orbit. Today's rockets use a blend called RP-1, which allows for a longer, more controlled burn and more thrust to get the rocket into space.

Stephanie Kwolek, 1923-2014

Kevlar
DISPERSES ENERGY

benzene para-xylene

nylon
DURABLE

benzene butadiene

Stephanie Kwolek
INVENTOR OF KEVLAR

American chemist Stephanie Kwolek was born and raised in rural Pennsylvania. After graduating from Margaret Morrison Carnegie College, she pursued polymer research at DuPont to uncover the “next generation” of polymer fibers that could withstand extreme conditions. Her research led to the invention of Kevlar®, a heat-resistant and extremely strong synthetic fiber commonly used in bulletproof vests, tires and even clothing. After retiring, Kwolek was inducted into the National Inventors Hall of Fame (1994) and was awarded the National Medal of Technology (1996) and the Perkin Medal (1997).

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