



Margaret E. Knight

Name: Margaret E. Knight Most Famous Invention: Paper bags Born in York, Maine, USA, on 14th February 1838, Margaret E. Knight was nicknamed 'the lady Edison' due to the amount of inventions she made. She was the daughter of James Knight and Hannah Teal but sadly her father passed away when she was young. This meant that Margaret received only a basic education and went to work in a cotton mill when she was still a child. At 12, Margaret witnessed an accident at the mill, which prompted her to invent a safety device for the mechanical loom (a machine for making fabric by weaving yarn or thread). It is thought to have stopped the loom if something got caught in it. Her invention became popular in other factories but Margaret was not recognised for her work because, at the time, she was not aware of the patent process, which means obtaining a government licence that excludes others from making, using or selling an invention. In 1867, Margaret was employed by the Columbia Paper Bag Company and, in 1868, she invented a machine that folded and glued paper to form flat-bottomed paper bags meaning that this job no longer needed to be done by hand. Charles Annan stole her design and argued that a woman could not invent something so useful. Margaret understood about patents so she took him to court and won the right to patent her design when she proved that she had written detailed notes about her invention. Margaret continued inventing useful objects, including some pliers to remove lids, a numbering machine and various engines, obtaining patents for 87 of her inventions.



George Washington Carver

Name: George Washington Carver Most Famous Invention: Peanut products

George Washington Carver was an African-American teacher, who went on to become one of the most prominent scientists and inventors of his time. He became known as ‘the peanut man’ due to his inventions that utilised peanuts in many different ways. George was born into slavery in the early 1860s (his actual birthdate is unknown as records were not always kept) to Mary and Giles, an enslaved couple owned by Moses Carver. In 1865, slavery ended but Moses and his wife, Susan, decided to continue to look after and educate George and his brother, James, in their home, despite this being unusual at the time as slaves were not entitled to an education. George was interested in science and the arts, spending much time drawing plants. Later, he became a botanist (an expert in the scientific study of plants) after attending university. In 1896, George became a teacher at Tuskegee University where he taught for 47 years. During this time, he also worked on his plant-based inventions; he invented more than 300 products from peanuts, including: plastics, paints, dyes, cosmetics, medicines, oils, soap, ink and wood stains and 118 from sweet potatoes, including: postagestamp glue, flour, vinegar and synthetic rubber. He even invented a plant-based petrol, something that is being investigated more nowadays (now called biofuels) as we try to move away from the use of fossil fuels, such as oil and coal.



William Henry Fox Talbot

Name: William Henry Fox Talbot Most Famous Invention: Light-sensitive paper Victorian Inventors William Henry Fox Talbot was born on 11th February 1800 in Melbury, Dorset, into an aristocratic family. He went on to become a Member of Parliament (MP), scientist, inventor, mathematician, archaeologist and a pioneer of photography. William's father died when he was less than a year old so he and his mother lived in a succession of different homes until she remarried in 1804. After receiving his early education at home with a governess (a woman employed to teach children in a private household), William went to Harrow School and then to Cambridge University in 1817. In 1832, he married Constance Mundy and was elected as MP for Chippenham in the same year. The following year, William visited Lake Como in Italy where he was keen to record the beauty around him; his sketching skills were limited, which prompted him to dream up a machine which would automatically make a sketch for him. William was interested in studying light and chemicals so he used this knowledge to go on to invent his 'art of photogenic drawing', which used light-sensitive paper to record real images. The downside of this technique was that it took a very long time for an image to be recorded so he went on to further develop photography with the use of chemicals which 'fixed' the image onto the paper. William patented this process in 1841, calling it the 'calotype' and was rewarded with a medal from the Royal Society the following year

Questions

1. Who stole Margaret E. Knight's design? Circle one.
George Washington Carver, William Henry Fox Talbot, Charles Annan,
Hannah Teal

2. Which of these did Margaret not invent? Circle one.
lid-removing pliers
a numbering machine
synthetic rubber
various engines

3. What does patent mean?

4. Find two things that George was interested in as a child.

5. What was the problem with William's 'art of photogenic drawing'?

6. Why is George's plant-based petrol so interesting to scientists now?

7. Summarise one of Margaret's inventions in 40 words or less.

8. How did Margaret's understanding of patents change over time?

9. Why do you think that George became a teacher? Give detailed reasons.

10. Which of the inventors do you see as having made the biggest achievement? Give evidence to support your answer.