Fulton's Steamboat

When you think of someone who is creative, what types of people immediately come to mind?

Artists? Definitely! Musicians? Certainly! Photographers and movie stars? Of course!

But what about engineers and inventors? These types of visionaries are highly creative because, as an engineer or an inventor, you take new discoveries and figure out how to use them to solve problems.

In the decades following America's victory in the Revolutionary War, our young nation was growing, particularly westward in the southeastern United States. In 1798, the Mississippi Territory was created, and in 1803, the United States purchased the Louisiana Territory from France. Rivers such as the Chattahoochee and the Mississippi—which runs almost as far north as modern-day Canada and down to the Gulf of Mexico—were used to transport people and goods from place to place.

But here was the problem: river transportation was slow and hard. Flat-bottomed boats called keelboats were commonly used for river travel. These boats relied on currents to carry them downstream. If keelboat owners wanted to travel upstream, they would use poles to push the craft against the current. It was so exhausting to do this that when a keelboat owner needed to make a return trip upstream, they would often take apart the boat, sell the wood, and travel on foot instead.[1]

The time it took to travel also limited what goods could be sold. Farmers who wanted to sell their crops had to make sure that the trip wouldn't take so long that their crops would rot and spoil by the time they arrived at their destination.

Many people tried to find ways to make river transportation more efficient —namely by using a steam engine that was invented in the early 18th century by the Englishman Thomas Newcomen that was later improved upon by the Scotsman James Watt in 1769.[2]

But it wasn't until Robert Fulton came along that a real breakthrough occurred.

Robert Fulton was born on a Pennsylvania farm on November 14, 1765. His father's attempt at farming failed, so the family moved to Lancaster, on Penn Square, when Robert was a young boy. His father died shortly after the move.

Robert was a talented young artist who had jobs painting signs for taverns and shops and apprenticing with a jeweler, where he painted lockets and pendants. He opened his own miniature-painting shop in Philadelphia, but in the late 1780s, Robert decided to expand his horizons and set off for Europe to study art.[3]

Even though Robert painted Benjamin Franklin's portrait and had two of his works accepted by the Royal Academy in London, his career as an artist didn't take off.[4] Inspired by his friends in Europe, by the early 1790s, Robert had developed and fostered an interest in engineering—specifically in canals, shipbuilding, and the recently invented steam engine. Fulton decided to abandon painting and refocus his career on invention and innovation.

Fulton developed a design for a machine to cut marble, a canal system to move goods inland, and a machine with a powered loom to spin flax.[5] He moved to France in 1797, where he got to work on designing a submarine, the *Nautilus*, which he attempted to sell to Napoleon and the French Navy.

In 1800, for 17 minutes, Robert piloted the *Nautilus*—which he built using his own resources—in 25 feet of water, but the French passed on adopting the submarine.[6]

While still in France (before leaving for England in 1804, where he developed submarines for the British Navy that earned him a lot of praise[7]) Robert Fulton met Robert Livingston. Fulton's inventiveness with the submarine caught the attention of Livingston.

Livingston was a New York lawyer who served in the Continental Congress, worked on the committee that wrote the Declaration of Independence, and was appointed as the minister to France by Thomas Jefferson. It was Livingston who also negotiated the successful Louisiana Purchase in 1803.

The two Roberts were ambitious visionaries who were both interested in figuring out a way to use the steam engine to power boats efficiently. Previous steamboats (such as those built by John Fitch in the U.S. in 1787) were too expensive to build and operate.[8]

After successfully testing a 74-foot side-wheeler steamboat in 1803 along the Seine in Paris, Fulton returned to America in 1806, where he built *The North River Steamboat of Clermont* in the East River of New York.[9][10] [Editor's note: Some sources dispute the name of the boat; most often it is referred to as the *Clermont*.[11]]

Thanks to the help of Livingston and Joel Barlow (an American businessman and poet), Fulton brought back with him an English steam engine to use on his new steamboat and got to work.