

Jeffersons Inventions

Reading Level: Elementary School

Thomas Jefferson designed and changed many things. But he only thought up one thing that can be called an invention. This was the moldboard of least resistance. He also thought up the cipher wheel and the spherical sundial, but historians are not sure if he was the first to invent them.

Moldboard of Least Resistance

Jefferson was always thinking of ways to improve farming. He invented a new type of moldboard for a plow. A plow is used to dig and turn over the soil for planting. The front of the plow digs up the soil. The moldboard is the curved part that turns the soil. Jefferson said that his moldboard was “so light that two small horses or mules draw it with less labor.” France’s Society of Agriculture awarded him a gold medal for the design.



A recreation of a plow using Jefferson's *Moldboard of Least Resistance*



A recreation of the Wheel Cipher Jefferson described in an undated manuscript.

Wheel Cipher

During the American Revolution, soldiers sent messages in code. Codes are used to write secret messages. Jefferson created the wheel cipher. It was one way to write a secret message.

The wheel cipher had 26 wooden disks. The disks were joined by an iron pin. All the letters of the alphabet were imprinted on the edge of each disk in no special order. The letters spun around the iron pin. Words could be scrambled and unscrambled. The person who received a coded message used the cipher wheel to help read the secret message.

Spherical Sundial

Jefferson made his sundial from the top part of a column. He placed a globe-shaped ball on top. He marked the North Pole and the South Pole. He marked the equator and the meridian lines. A movable meridian cast a shadow telling the time.

Throughout his life, Thomas Jefferson dreamed, designed, changed and invented. With the help of craftsmen and workers, many of his ideas became real things. Today we can visit Monticello. We can tell time using the Great Clock. We can see many of the gadgets that Jefferson created.



A recreation of Jefferson's Spherical Sundial based on his specifications.