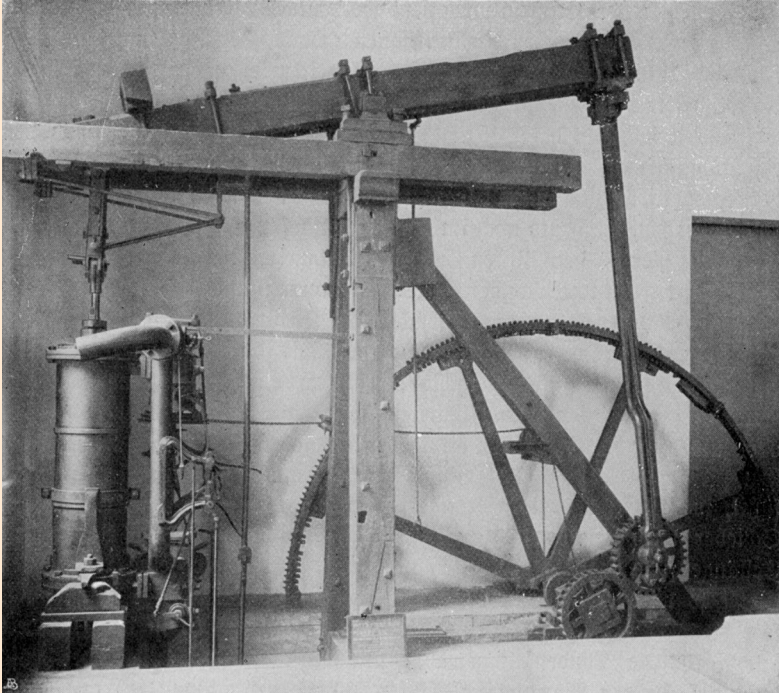


Leggi e ascolta.

The machine that changed the world



Between the late 1700s and the late 1800s, factories, machines and hundreds of new inventions changed the lives of millions of people. Today we call this time the Industrial Revolution – and the energy for that revolution came from one important invention: the Watt Steam Engine.

Before the Industrial Revolution, most machines were a few simple parts – and they needed animals, wind or water to move them. At the time, people made everything by hand – from furniture and clothes to houses and ships. Then, in May 1765, a young Scottish engineer called James Watt invented a new type of steam engine. It quickly changed the world.



A steam engine burns coal to heat water and to change it into steam. Then the hot steam moves the parts of the engine. Watt's Steam Engine was much more efficient than the first steam engines – it used less coal and it could produce enough energy to move big, heavy machines. It could also work faster, and it could turn a wheel. This was important because people could use it to move the parts of machines in factories.

Soon, new factories appeared all over Britain. At the same time, people invented new factory machines to make lots of different products. These factories needed new workers, so millions of people left their villages and went to work in the towns. Some factory towns quickly developed into big cities.

Other engineers later changed the design of Watt's Steam Engine. They made it more efficient, and they also found a lot of different ways to use it. The first steam ships were built in the early 1800s. In 1825, the first steam railway opened between Stockton and Darlington in the north of England. Suddenly, you could travel between two cities in hours – instead of days! Fifty years later, steam railways and steam ships regularly carried people across the world.



Like many new inventions, the steam engine brought new problems, too. Men, women and children had to work very late at night in dirty, noisy factories. The steam engines burned coal, and the smoke polluted the air in the cities. Every day, thousands of people worked long hours in deep, dark coal mines – and many of them died. But slowly, workers fought for their rights. Their jobs became better, and life became easier.

In the 1880s, people used steam to move the parts in enormous new machines called steam turbines. When magnets inside the turbines moved, they produced electricity. Electric lights appeared on the streets and later in people's homes. Then, in the 20th century, people invented lots of new electrical machines – like fridges, TVs, and computers. But today, most of the electricity for our machines still comes from steam turbines!