Design and research work

THE UK / US AND RUSSIAN MOST WORLD FAMOUS INVENTIONS AND DISCOVERIES OF MANKIND IN XIX/XX CENTURIES IN COMPARISON.

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Contents.

Relevances:

-to study achievements in inventions and discoveries of science and technology;

-to compare the achievements of two countries to understanding the culture and level of development of these countries and make their comparative analysis

Purpose:

-to consider important inventions and discoveries of the 19th century in Russia and the UK, their role in Russian and British society and the world community as a whole.

Tasks.

- to highlight the most significant inventions in Russia and the United Kingdom;
- to analyze and systematize the information of inventions on the sequence of occurrence in the UK and Russia, as well as the reasons for their appearance in two countries and describe the research;
- to translate the research from Russian into English;
- to make a presentation and prepare to speak at the conference

Introduction

Inventions appeared because of such human qualities as observation, imagination and faith. Thanks to observation, a person noticed the relationship of the various phenomena of nature and their impact on people, singled out the characteristics of the surrounding objects, trying to identify and prove scientifically how these or other objects in their invention and / or improvement could serve him, making his life more comfortable.

Chapter 1.

TRANSPORT

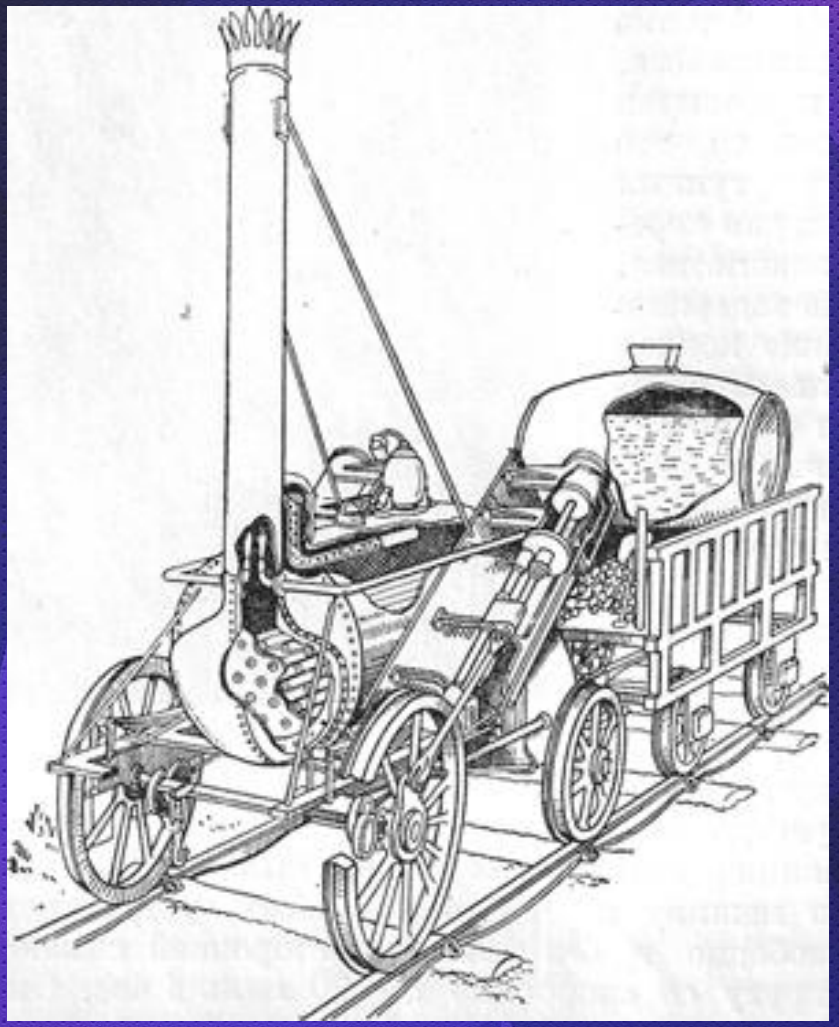
In the **first half of the XIX century**, Britain was the workshop of the world. New machines and tools allowed engineers to build the English advanced machines of all kinds. Materials given by a strong steel industry, and the power of steam engines increased the flow of inventions.

TRANSPORT

The first who managed to make **the rolling on the tracks steam wagon** was a talented British engineer **Richard Trevithick**, who by the end of the **XVIII century** was famous for the creation of **light but powerful boilers.** In one of the earliest public demonstrations his locomotive successfully drove 10 tons of iron, 5 wagons and 70 men at a distance of 15 km in 4 hours 5 minutes.

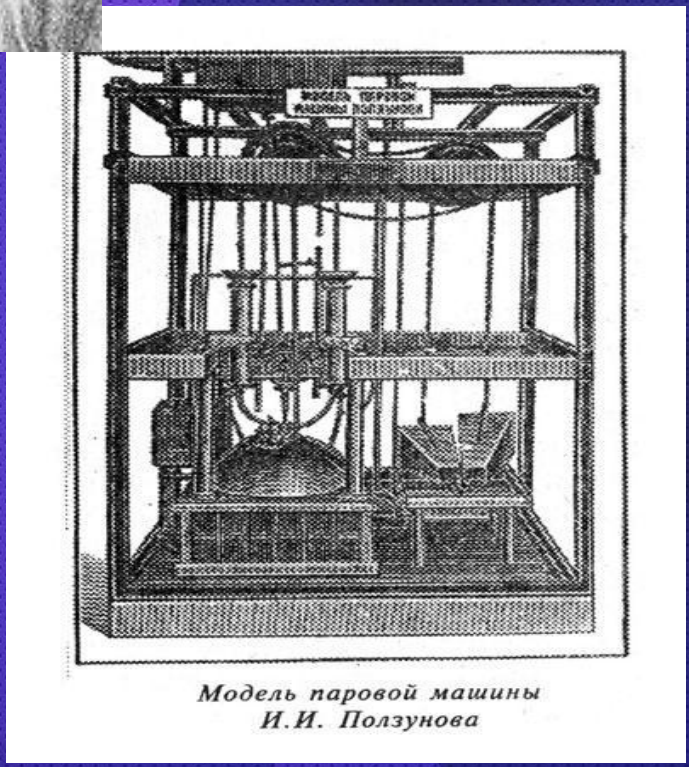
TRANSPORT

The **steam engine**, created by **Richard Trevithick**, and steel rails formed the **rail transport**. Steamers accelerated the ocean voyage. Steel bridges were formed through the wide rivers.



TRANSPORT

In 1763, Russian engineer **Ivan Polzunov** produced his own project which was **a stationary steam engine of continuous action.** It had two twinned cylinders; one by one filled by steam, and it also supplied water to the tower constantly.



Модель паровой машины И.И. Ползунова

Chapter 2.
ELECTRICITY

The scientists of the XIX century have studied the properties of electricity. Inventors found the use of these works for communication, energy and lighting.

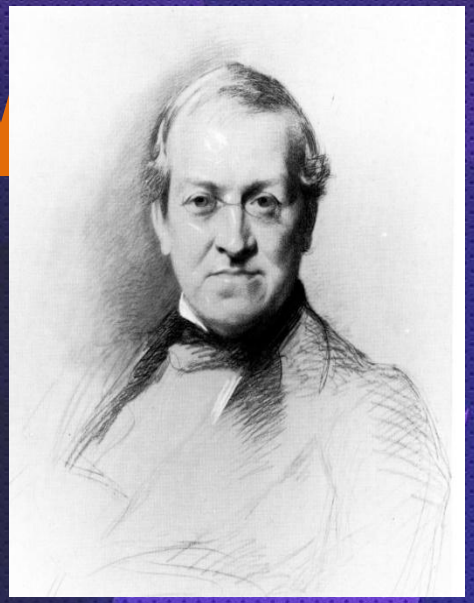
ELECTRICITY

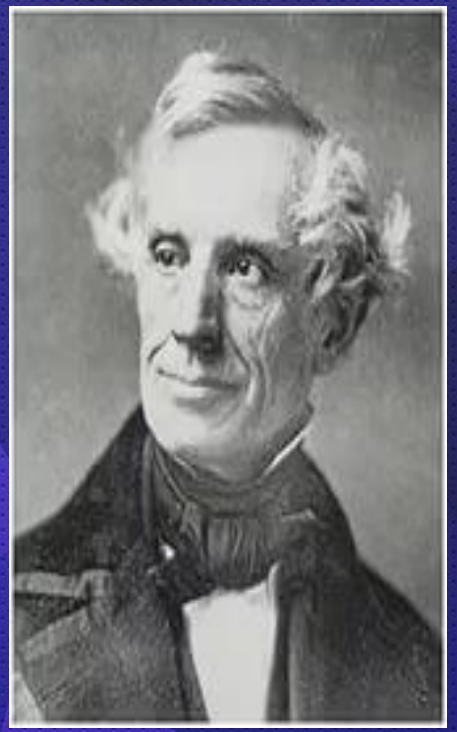
In 1837, the first **electric telegraph** was invented by **Cook** and **Wheatstone**. The moving needles coded messages.

Samuel Morse developed the **electric telegraph recording messages in Morse code**.

In Morse code letters and numbers correspond to the long and short signals: dots and dashes.

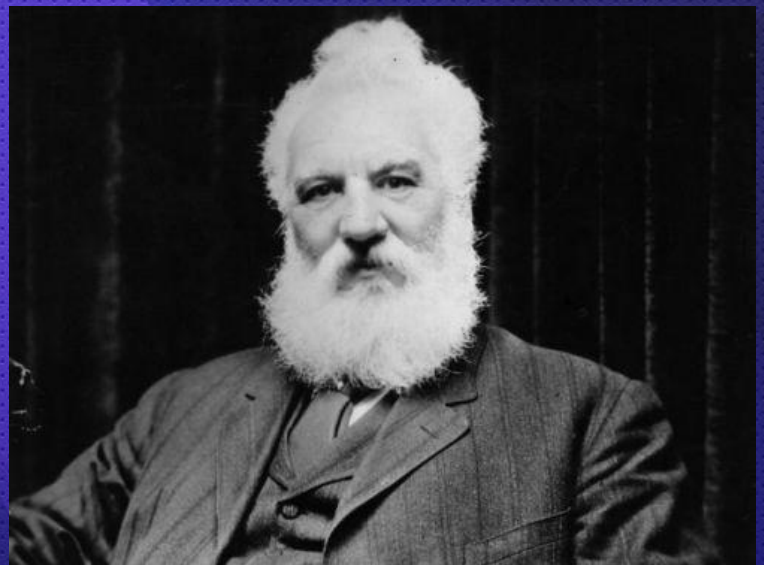
In 1840 telegraph lines were stretched across Europe and America.





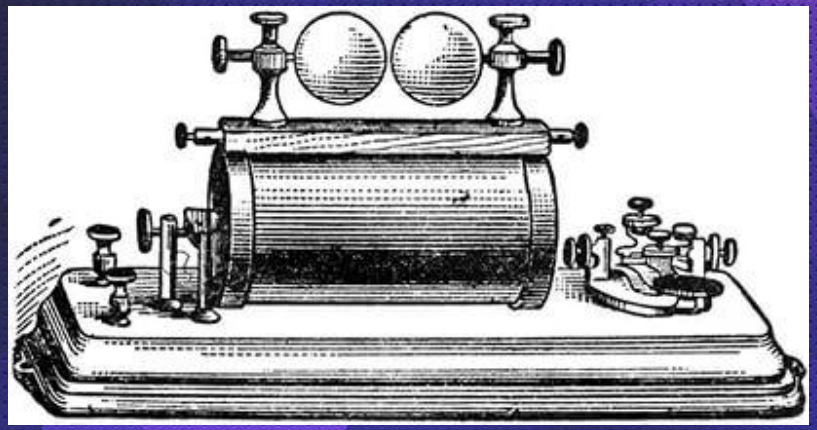
Chapter 3.
TELEPHONE

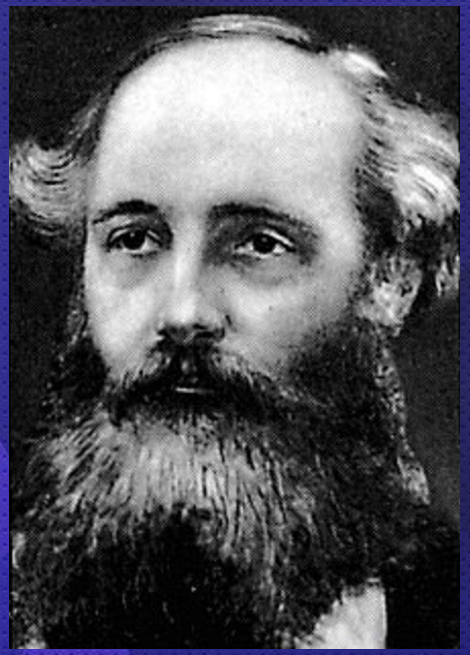
The telephone was invented, many believe, by the British scientist **Alexander Graham Bell** and patented in **1876**. **In 1976**, an international non-profit association Institute of Electrical and Electronics Engineers (IEEE) has established the Gold Medal of the Alexander Graham Bell to be awarded for outstanding basic research and applied development communication, which is the highest award of the organization.



RADIO

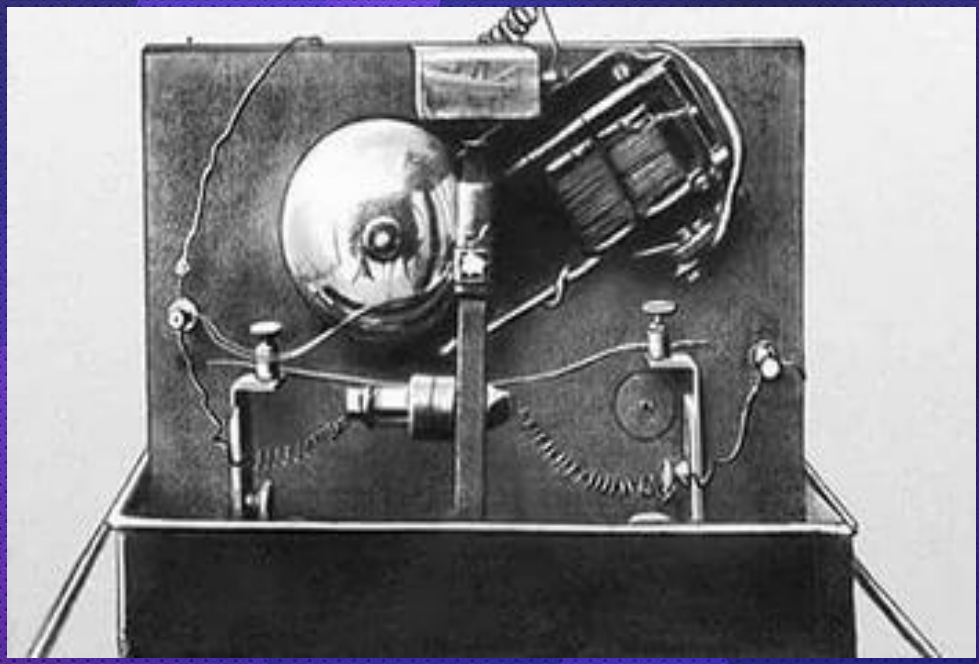
Radio grew out of scientific discoveries of **James Clerk Maxwell** and **Heinrich Hertz**. The inventor **Guglielmo Marconi** tried to develop "**wireless telegraphy**". Marconi sent the signal from the hill. The man, who received the signal, confirmed that with a gunshot.





RADIO

It has been over 100 years since the invention **of the radio** by the Russian scientist **Alexander Stepanovich Popov** . On **the seventh of May 1895** for the first time in the world he made a report for the Scientific and Technical community about the invention of the method the use of electromagnetic waves emitted by the wireless transmission of electrical signals, containing useful information for the recipient, and makes such a transfer in action, getting the information to the receiver. **In March 1896**, he has demonstrated a device for transmitting signals transmitted over a distance of 250 m radiogram of the two words "Heinrich Hertz". It was the first original model of the radio device.

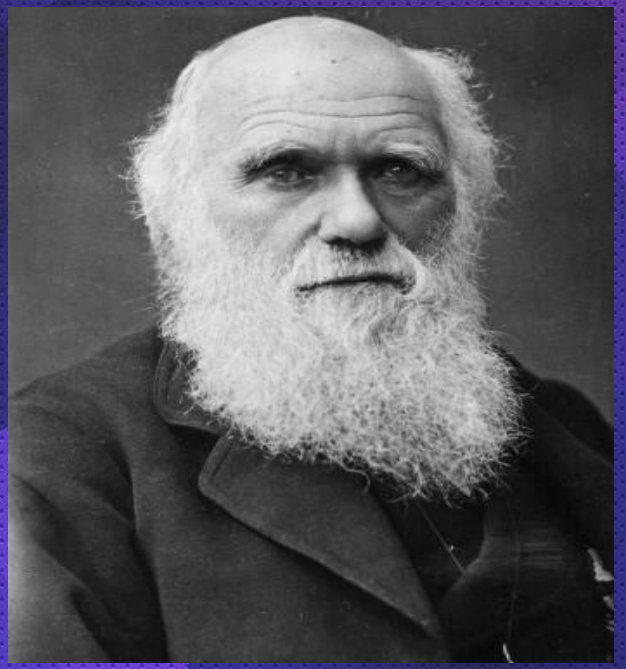


TELEVISION

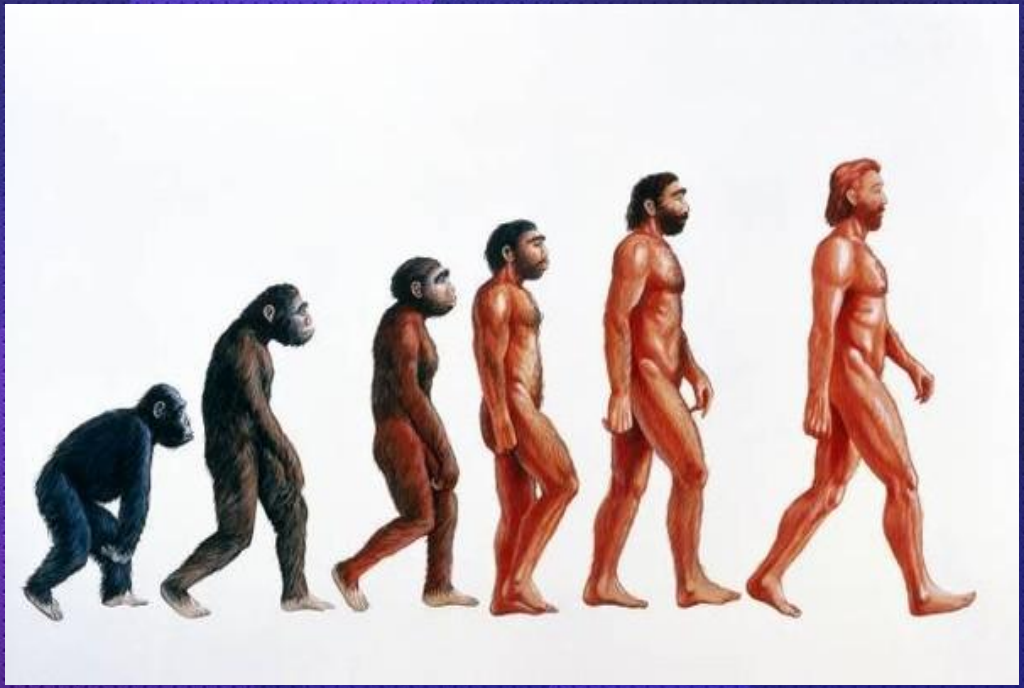
The world's first publicly **demonstrated television** was invented by the British inventor **John Baird Logue in 1926.** Then, the mechanical television was expelled with developments of **Vladimir Zworykin and Phil Farnsworth** in the field of electronic television, but the first TV set of Baird was an important step in the development of television.

Chapter 5.

BIOLOGY

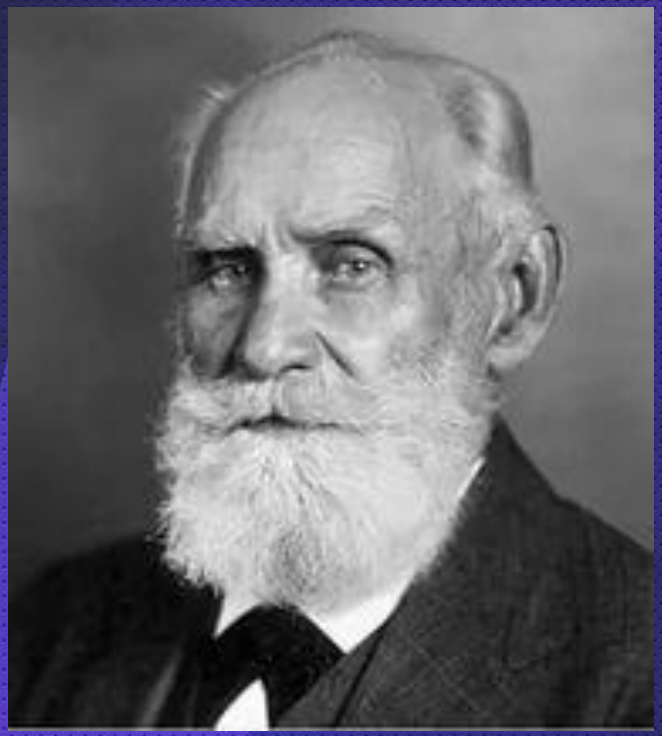


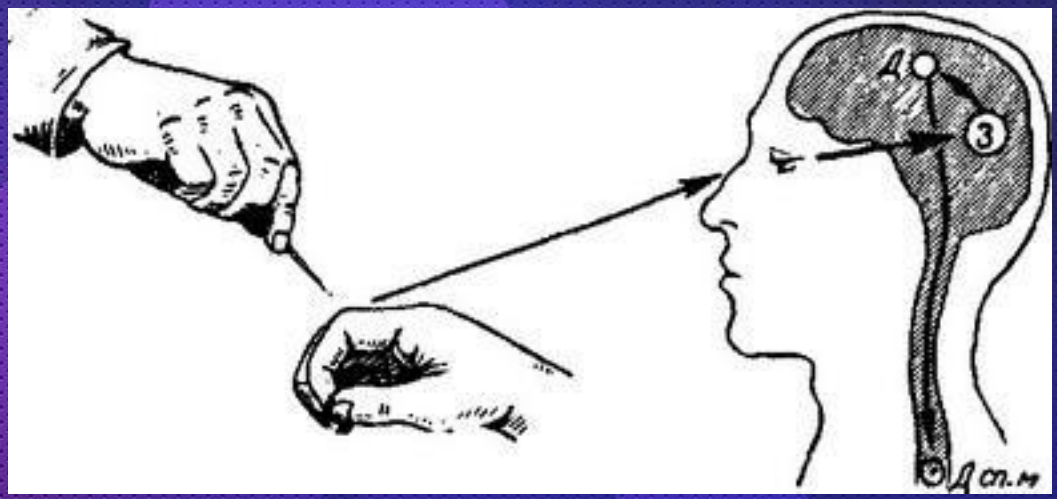
Charles Darwin, the British naturalist , first proposed **the theories of evolution, natural selection and common ancestry in 1871** . After 5 years of traveling around the world, Darwin returned to Britain and became a celebrity in scientific circles. Darwin was honored with numerous awards from the scientific societies, the UK and other European countries.



BIOLOGY

In 1903, 54-year-old **Ivan Pavlov** made a report on **higher nervous activity and understanding of the processes of digestion** at the International Medical Congress in Madrid. And in the next, **1904**, he became the first Russian Nobel Prize winner for the research of functions of the principal digestive glands.





BIOLOGY

In 1919, Nikolai Vavilov created the doctrine of **the world's centers of origin of cultivated plants.** He has made a significant contribution to the development of field cropment of the doctrine of biological species. Under the direction of Vavilov **the world's largest collection of seeds of cultivated plants** was created. He laid the foundations of the system of state testing of varieties ops.

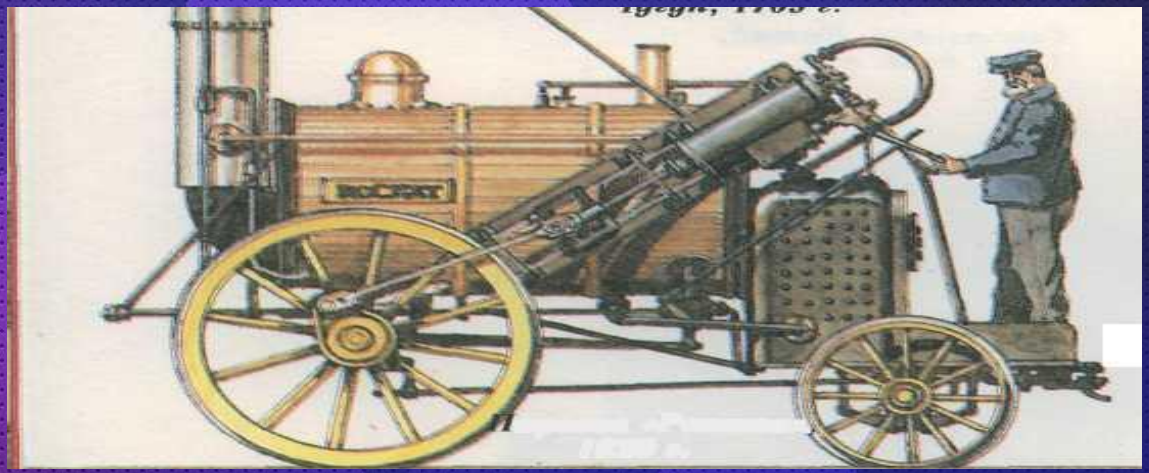
Chapter 6
Another important inventions of the XIX century:

1801 - E.M. Artamonov has invented the **well-known bicycle** as we see it today.

1808- Pellegrino Turi invented the **typewriter**

1809- Arc lamp was invented **by Humphry Davy**

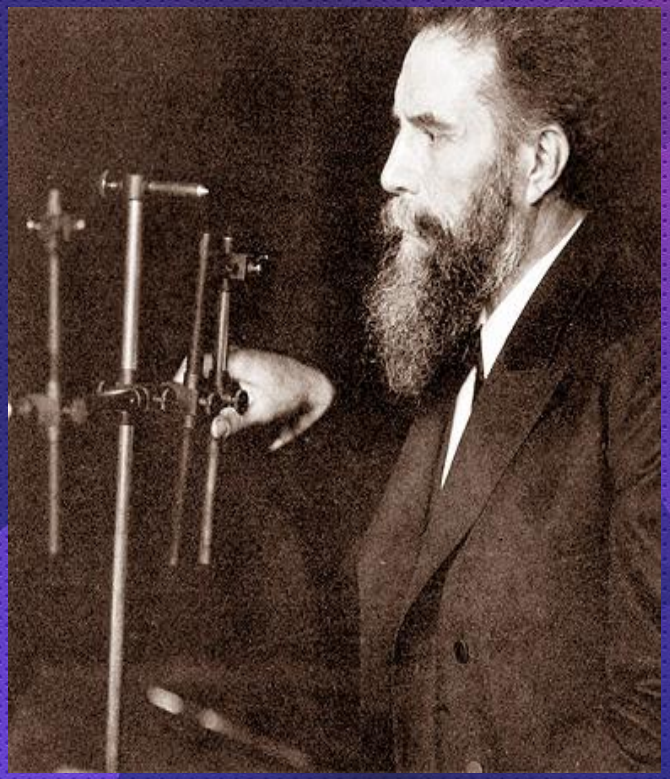
1814- The first practical steam **locomotive "Blucher"** was invented by **George Stephenson**



15. 1817- Kaleidoscope was invented by **David Brewster**

1823- Electromagnet was invented by **William Sturgeon**

1876 - Yablochkov and **Lodygin** invented the world's first **electric light bulb**



1877 - Gramophone was invented by **Edison.**

Thomas Alva Edison patented more than 1,300 inventions.

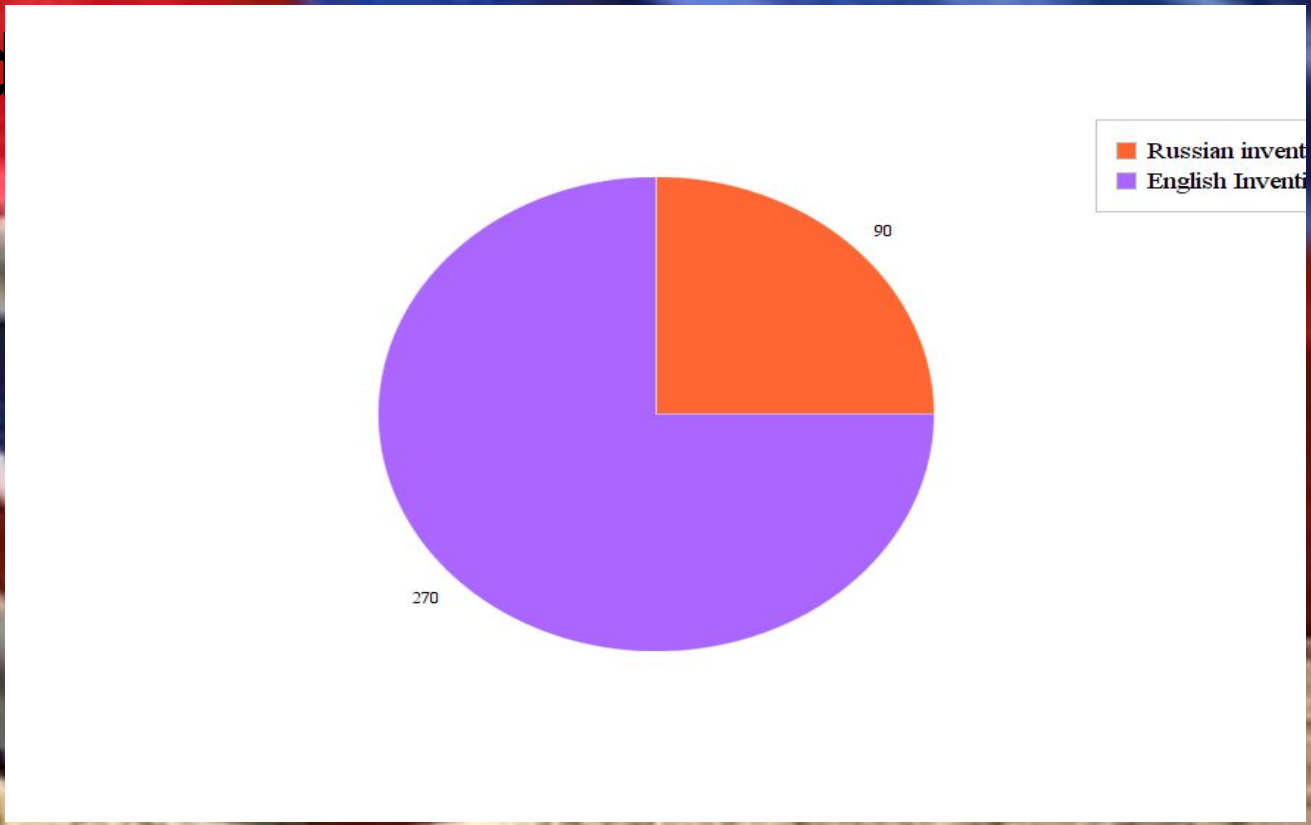
Among the most famous inventions is **an incandescent lamp** invented in **1879**, which is used today.

Another of his inventions was **a phonograph-** a device for sound recording. After this invention Edison became deaf.

Conclusion:

1)

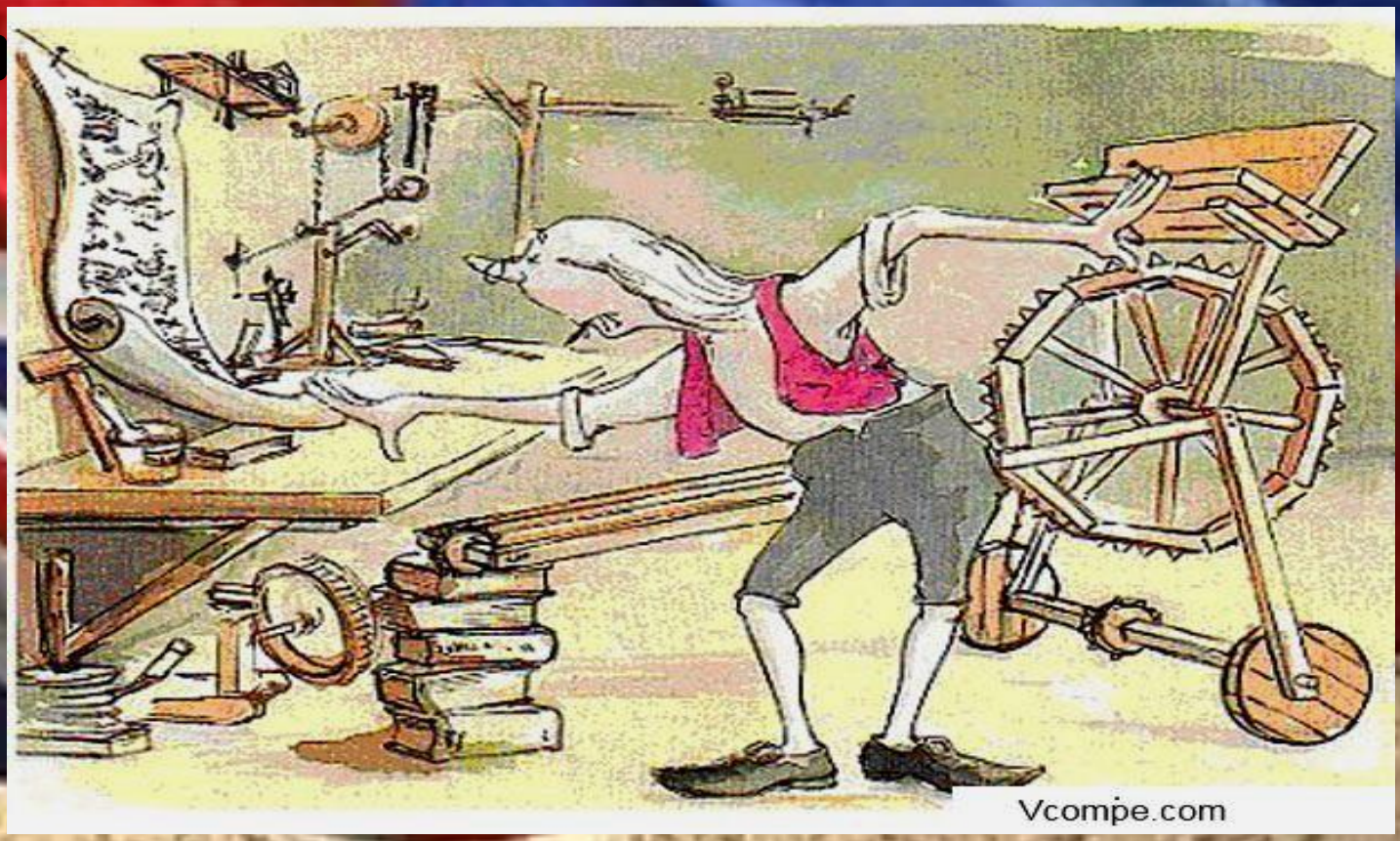
A large share of inventions accounted for the UK (70%) because, unlike Russia in the 19th century United Kingdom was considered to be a highly developed economic country with famous universities and d



Conclusion:

2)

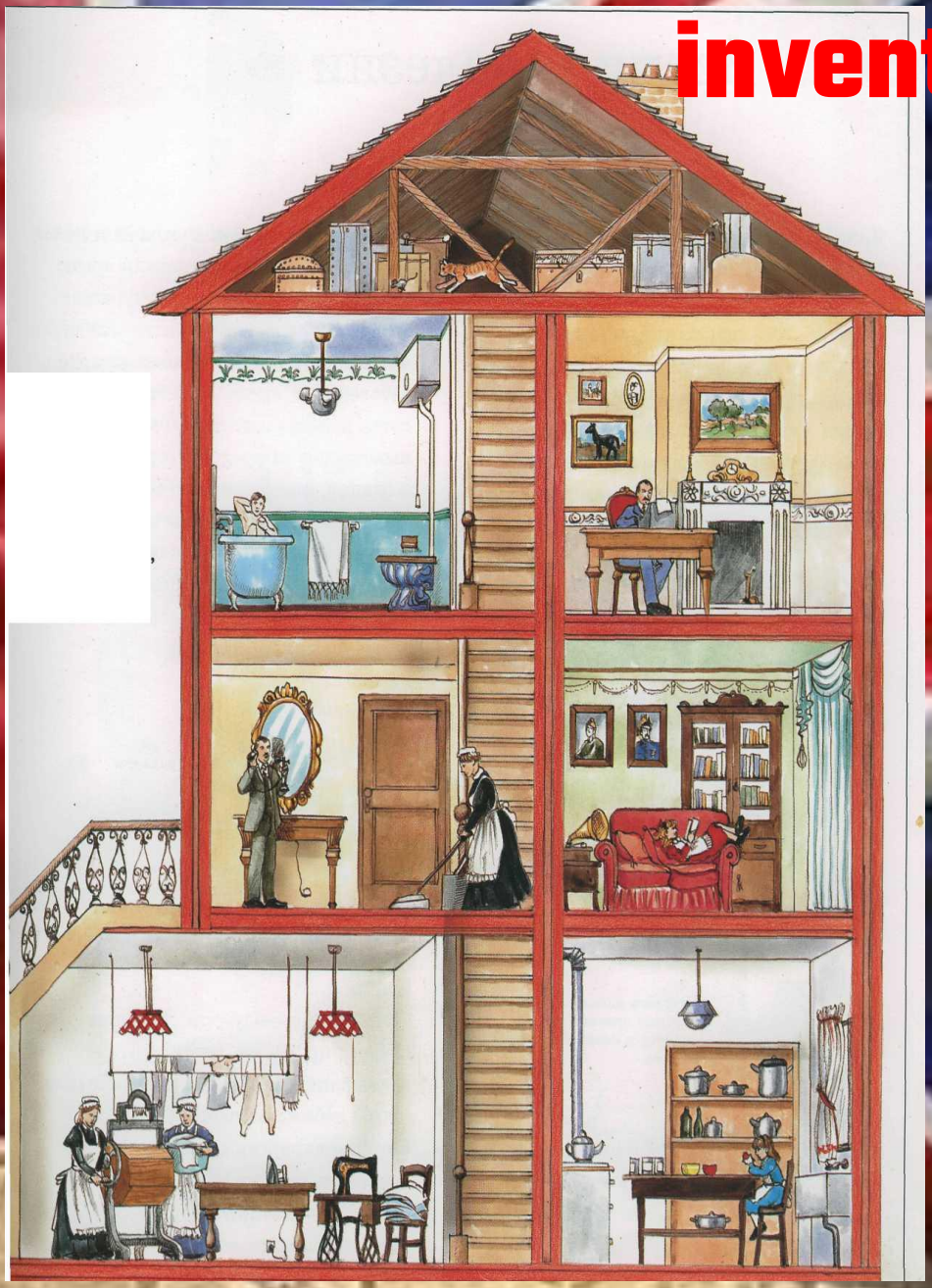
But despite the different historical development, many important inventions and discoveries were made practically simultaneously or based on previous disco



3)

Inventions and discoveries - are products of the human mind and intelligence, based on the cultural traditions of the countries that have come down to our times and converted to a modern image and design.

Basic Russian and UK inventions.



Mankind takes invented telephone, bicycle, TV and other modern conveniences like the familiar surroundings of our lives, but they are backed by the genius and hard work of scientists and inventors all over the world, and especially of the19th century scientists from the United Kingdom and Russia.

The main conclusion

So there were the inventions. They are preserved and handed down from generation to generation, have gone improvement, thanks to the development of technical progress and survived already remotely resembling their predecessors.

And no matter what country the inventions have been made in. They don't have any nationality. Inventions are used all over the world from Alaska to the North Pole.

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Applications.
MORZE CODE