

Technology

The Invention of the Lightbulb

The first electric lights

English scientist Humphry Davy first made an electric light in 1801. He ran electricity through a platinum strip, making it glow. But it wasn't practical, as the strip soon burned away to nothing – and platinum is very expensive. In 1809, Davy invented another electric light, the arc lamp, in which an electric current jumped across a gap, making the air glow. Arc lamps worked, but they were too big, hot and smelly to use at home.

Who made the first electric light?

Why was it not practical?

What was wrong with the next one he invented?

For years, inventors tried to come up with a small, long-life electric light. Many say the first true light bulb was invented by a German inventor, Heinrich Göbel, in 1854, but it was never developed for everyday use.

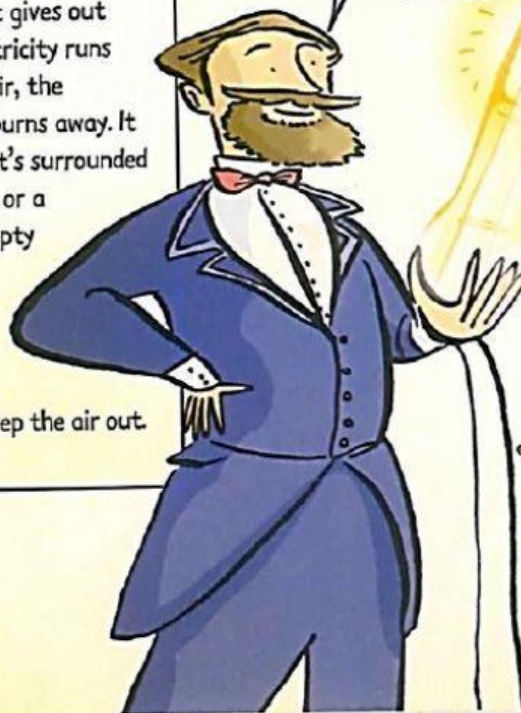
Heinrich Göbel

I invented the light bulb! Look!

Heinrich Göbel's 1854 light bulb had all the essential ingredients of a modern bulb, and had a burning lifetime of 400 hours.

Why a bulb?

A light bulb has a strip or "filament" that gives out light when electricity runs through it. In air, the filament soon burns away. It lasts longer if it's surrounded by other gases, or a vacuum (an empty space). So the filament needs to be inside a sealed glass bulb to keep the air out.



In the end, two inventors on opposite sides of the Atlantic raced each other to bring their own light bulb designs to the public.

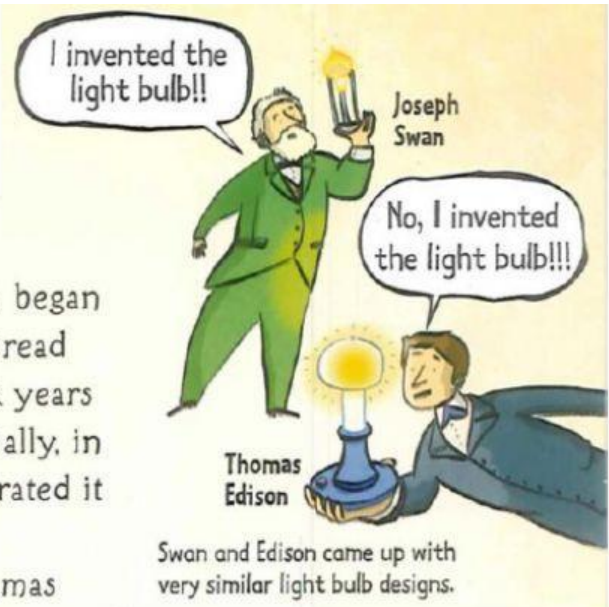
What purpose does the bulb serve?

Why doesn't Heinrich Göbel's invention count as "the invention of the lightbulb"?

Swan versus Edison

Around 1850, an English scientist, Joseph Swan, began work on his light bulb. He used a carbonized thread filament inside a vacuum-filled bulb. But it took years to get a really good vacuum inside the bulb. Finally, in 1878, Swan patented his light bulb and demonstrated it to the public.

But that same year, the great US inventor Thomas Edison had set to work on the light bulb too. He came up with a similar design to Swan's, and patented it in America in 1879.



Who patented their lightbulb when:

Joseph Swan

1879

Thomas Edison

1878

Lighting the world

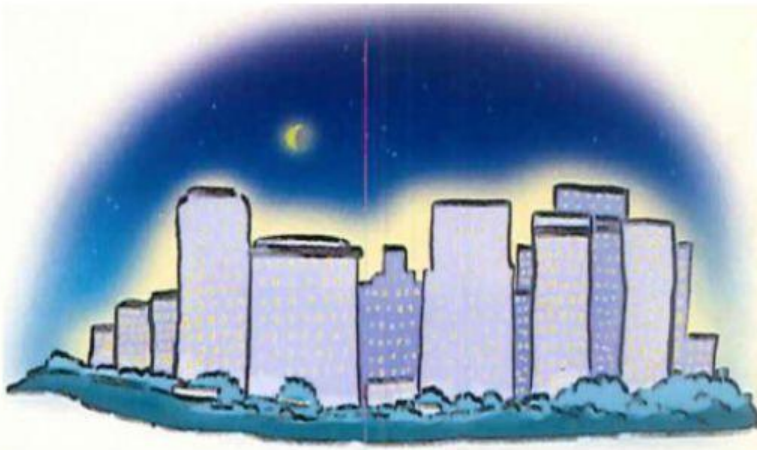
In 1880, Edison equipped a steam ship, the "Columbia", with electric lighting, and in 1881 he began to supply buildings in New York City too. Back in Britain, Swan brought electric light to the Houses of Parliament in London in 1881 and the British Museum in 1882.

At first, Edison and Swan argued over who had really invented the light bulb. But in 1882 they went into business together, and formed the Edison & Swan United Company to make and sell light bulbs and lamps.

Their rivalry lasted forever.

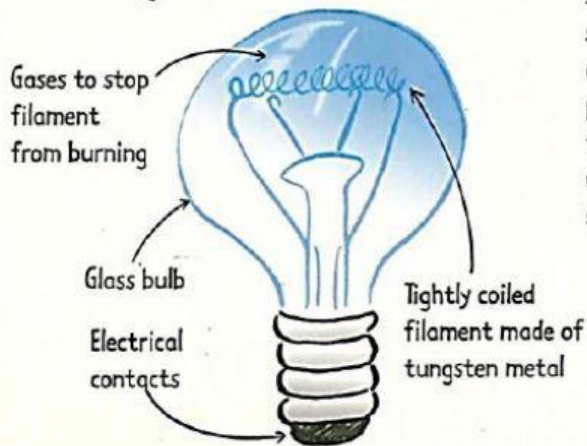
True

False



New York was one of the first cities to be lit by light bulbs.

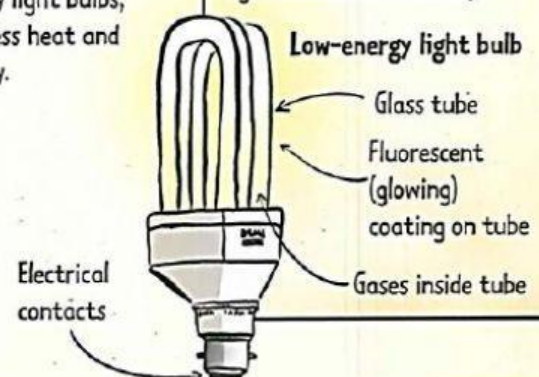
Traditional light bulb



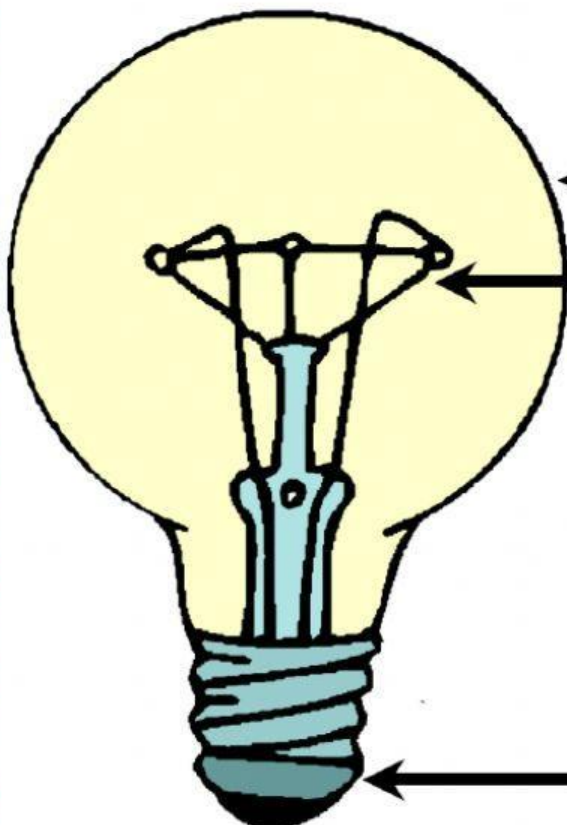
Some modern light bulbs still work in the same way as early bulbs. But many people are now switching to low-energy light bulbs, which make less heat and so save energy.

Fluorescent bulbs

Another type of light bulb is the fluorescent bulb, perfected by German inventor Edmund Germer in 1926. This is a glass tube full of gases that give out ultraviolet (UV) light when electricity flows through them. Though UV light is invisible, the tube has a fluorescent coating that glows when the UV light hits it. Modern low-energy light bulbs work this way.



Label the Traditional light bulb



Please watch the video

Do you think this is a good invention? Why?

Click here:

