

# Technology!

## The Invention of the Vacuum Cleaner



Simple twig brooms were invented more than 4,000 years ago.

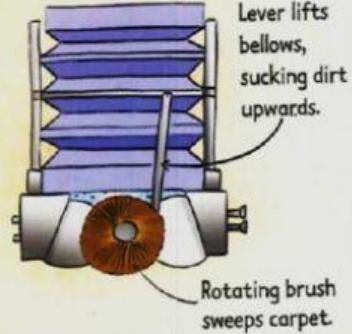
### SUCKING UP DUST

#### Sucking up dust

Before vacuum cleaners, there were two ways to clean your carpet: sweeping it with a broom, or beating it with a stick. Both created clouds of choking dust.

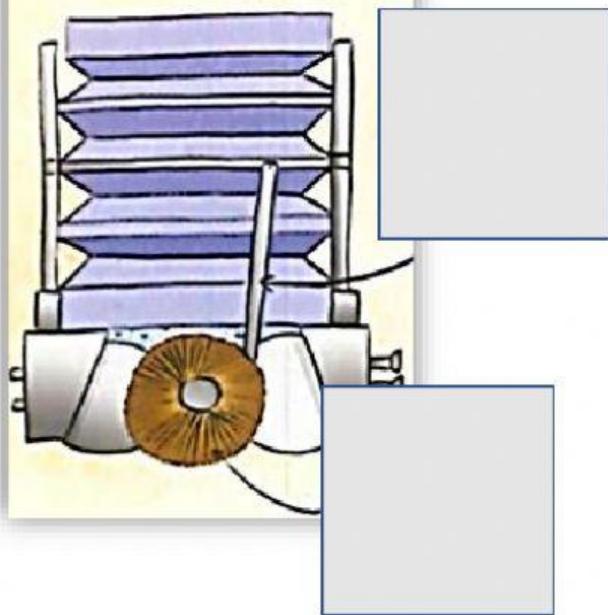
#### Sucking it up

A vacuum cleaner uses a vacuum – an empty space – to create a sucking force that pulls in dust and dirt. This idea dates from 1860, when US inventor Daniel Hess designed a carpet sweeper with bellows on top that lifted up to create a vacuum. And in 1869, another American, Ives McGaffey, invented the hand-operated "Whirlwind" cleaner, which used a fan to suck in dust. Unfortunately, both these early versions failed to take off.



#### Hess's suction sweeper

Drag and drop the words to the correct space



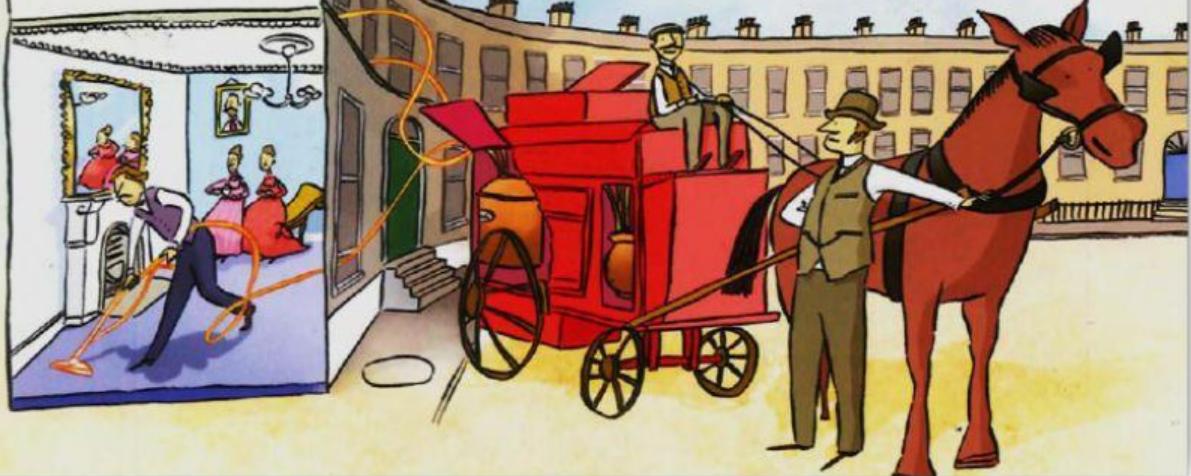
Lever lifts  
bellows,  
sucking dirt  
upwards.

Rotating brush  
sweeps carpet.

## Booth's big breakthrough

**Party time!**  
Booth's vacuum cleaner was popular with the rich and was even used by royalty. By 1903, society ladies were having vacuuming parties. They would invite their friends over to watch while workers used Booth's machine in their homes.

English engineer Hubert Cecil Booth is often considered to be the true inventor of the vacuum cleaner. His oil-powered cleaner, invented in 1901, used a motor pump to create suction. It was so huge it had to be pulled from house to house on a horse-drawn cart. Assistants then put long tubes through the windows and used them to suck the dirt out of the house.



A Vacuum Party was a party that rich / poor ladies use to throw. They used to invite their enemies / friends over to their house to:

Vacuum their house

Watch workers vacuum their house

Booth's machine was oil / gas powered.

The machine was very small / big.

## Hand-held hoovers

Booth's vacuum cleaner was such a success that other companies soon began to make them too. Several inventors came up with smaller vacuum cleaner designs, but it was an American caretaker, James Spangler, who finally got it right. He was so sick of dust making him cough when he did the cleaning that in 1907 he built his own dust-sucking machine. It was made from an electric fan, a wooden crate, a broomstick and a pillowcase.

Spangler sold his design to his cousin's husband, William Hoover, and he and Spangler went into business making vacuum cleaners. The simple, lightweight design made them a huge hit, and the Hoover® company sold millions of them. In some countries, domestic vacuum cleaners eventually became known as "hoovers".

Spangler's first design was very simple, but it still worked well.



Match the **order** to the **inventor**

(only the inventors mentioned in the box above)

Draw a line from "first" to the person that invented the vacuum first.

Do the same with second and third

first

William Hoover

second

Hubert Booth

third

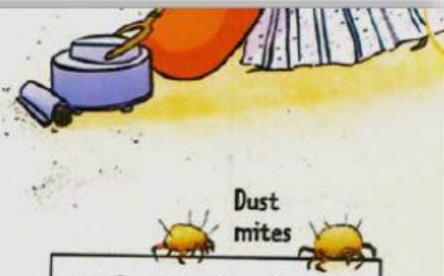
James Spangler

## Still inventing

Though it was invented over a hundred years ago, the vacuum cleaner still isn't finished with. People keep inventing new ones.

In 1978, British inventor James Dyson invented the cyclone vacuum cleaner, which has no dust bag and uses a spinning cone to separate the dirt from the air. By the mid-1990s, cyclone cleaners outsold traditional dust-bag cleaners.

And in 2000, several companies brought out robot vacuum cleaners. They roam around a house by themselves, cleaning as they go.



### What's in dust?

Vacuum cleaner salesmen often used to persuade people to buy a cleaner by telling them about the scary things in household dust. One teaspoon of dust can contain...

- 5 million skin cells
- 10,000 dust mites
- Hundreds of pet hairs
- Insect legs and eyes, and other creepy-crawly body parts
- Millions of bacteria and grains of plant pollen.

Draw a line to match the

Vacuum Cleaner to its description

Dust-bag  
Cleaner

A spinning cone  
separates the dirt  
from the air

Cyclone  
Cleaner

They go around the  
house by themselves  
cleaner where they go.

Robot  
Cleaner

This sucks the dirt  
into a bag and lets  
the air out.

**Please watch the video**

**Do you think this is a good invention? Why?**

**Click here:**