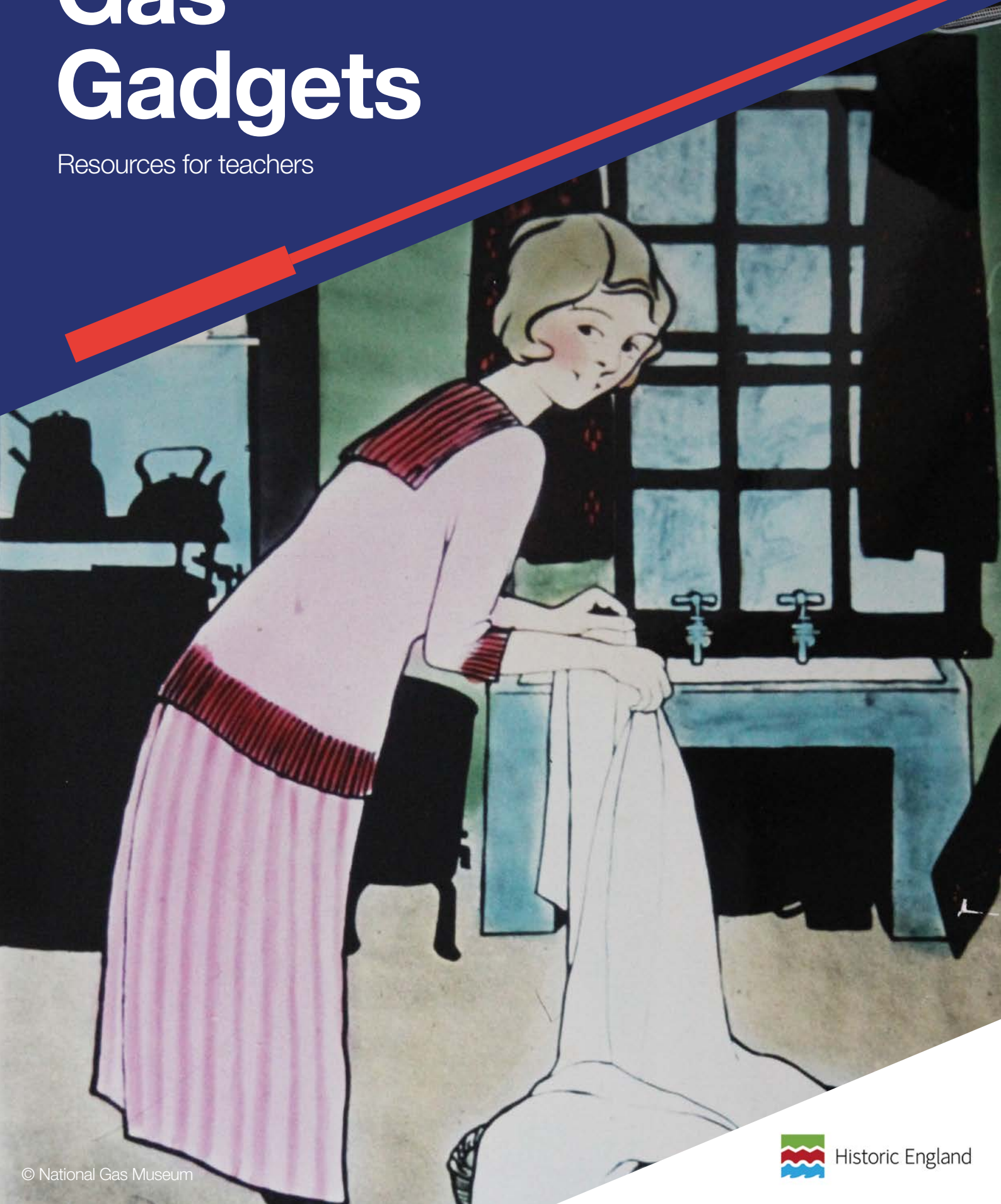


Gas

Gas Gadgets

Resources for teachers





Using the resource

National Grid owns, manages and operates the national gas transmission network in Great Britain, making gas available when and where it's needed all over the country. This resource is part of our series for schools, highlighting and celebrating how gas has lit our homes and streets and kept us warm for over 200 years.

This resource primarily supports History at Key Stages 1 and 2 and the development of children's enquiry, creative and critical thinking skills. It includes:

- Information for teachers
- Fascinating Did you know..? facts
- A series of historical images to help children explore the theme, with additional information and questions to help them look closer.

It can be combined with other resources in the series to explore wider topics such as:

- Energy
- Homes
- Victorians
- Jobs and work
- The industrial revolution
- Technology

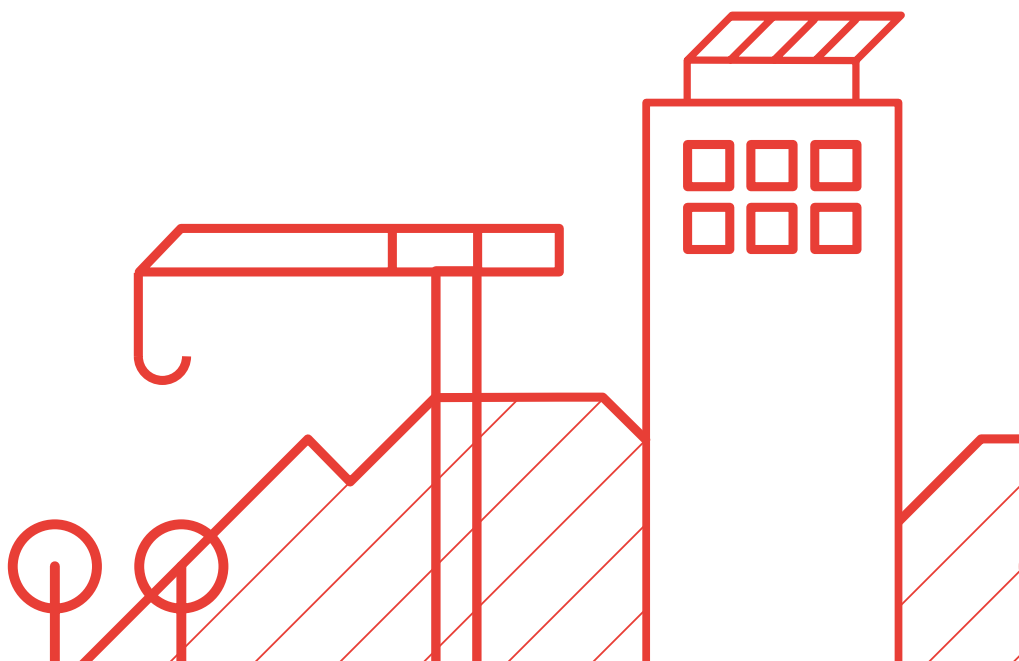
And used to support cross-curricular work in English, Technology, Science and Art & Design.

Project the images onto a whiteboard to look at them really closely, print them out, cut them up or add them to presentations, Word documents and other digital applications.

Our **Classroom activities** resource provides hints, tips and ideas for looking more closely and using the images for curriculum-linked learning.

Resources in the series

- [Gas lighting](#)
- [Heating and cooking with gas](#)
- [Gas gadgets](#)
- [Gas – how was it made?](#)
- [The changing role of women](#)
- [Transport and vehicles](#)
- [Classroom activities](#)
- [Your local gas heritage](#)





Information for teachers

Throughout the 1800s, gas became increasingly popular as a source of power. By 1850, towns and cities across the UK were lit by gas lamps. Towards the end of the century, gas was being used to light and provide heat to the majority of homes, and to cook the family dinner.

But by the 1930s, gas was facing increasing competition from electricity as the main source of power in the home. The gas industry invested heavily in promotional schemes, mounting advertising campaigns, modernising showrooms, producing documentary films and even funding the construction of a model housing project in central London.

The domestic market was important to the industry, and manufacturers produced a variety of new gas-powered domestic appliances to encourage consumers to stay with gas. Alongside the more conventional lights, gas fires and cookers were gas washing machines, gas irons, fans, radios, hairdryers – even a gas-powered waffle maker! These were promoted by the Home Service Women, employed to appeal directly to female householders and to demonstrate the benefits of using gas for cooking, heating, laundry and lighting.

See our resources on [Lighting, Heating and cooking](#) and [The changing role of women](#) for more information.



Did you know?

- ◆ Many of the first domestic appliances were powered by gas including fridges and washing machines
- ◆ Some of the early gas appliances combined more than one function, such as a **fridge** topped with gas rings for cooking and a **washing machine** which doubled up as a dishwasher
- ◆ Gas was being used for cooking from as early as the 1830s
- ◆ The pre-payment meter made gas affordable for the working household – by putting a little extra into the gas meter each month, cookers and other appliances could be rented or bought on credit



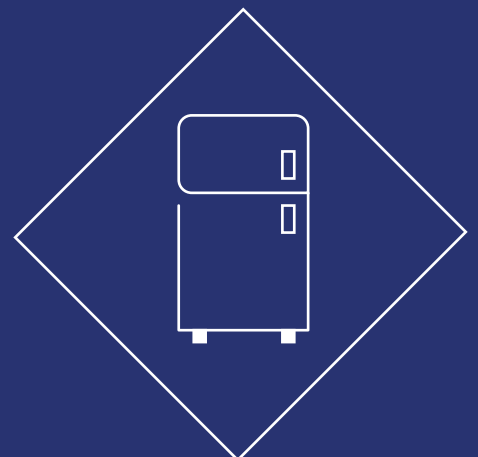
Electrolux Refrigerator

(1922)

In 1922 the Electrolux refrigerator was patented which, despite its name, needed no electricity and could run on gas or oil.

Look closer

- ◆ Could you fit food for a whole family in this fridge?
- ◆ Can you see the ice compartment at the top?
- ◆ How is this different to modern fridges?





2

Combined washing machine and dishwasher

(1920s)

This unusual combination machine could be used as a washing machine or a dishwasher. The handle on the side is used to move the wooden 'dolly' – a long wooden pole with wooden prongs at the bottom – backwards and forwards to swish the washing around in the water.

Look closer

- ◆ How might it have been filled with water, and emptied again?
- ◆ How much washing do you think could fit into this machine at once?
- ◆ How is it different to a modern washing machine or dishwasher?





3

Uno twin tub washing machine

(c.1936)

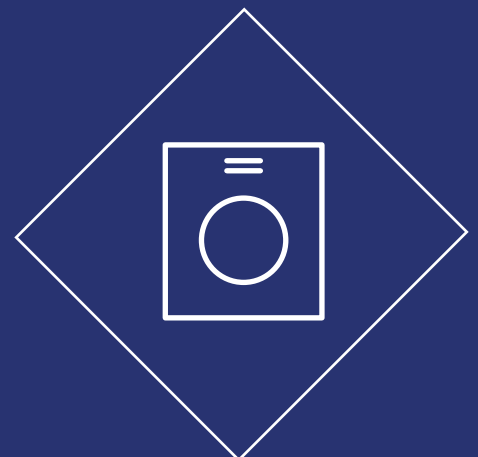
Although this appliance was called a washing 'machine', by today's standards much of the work was still done by hand.

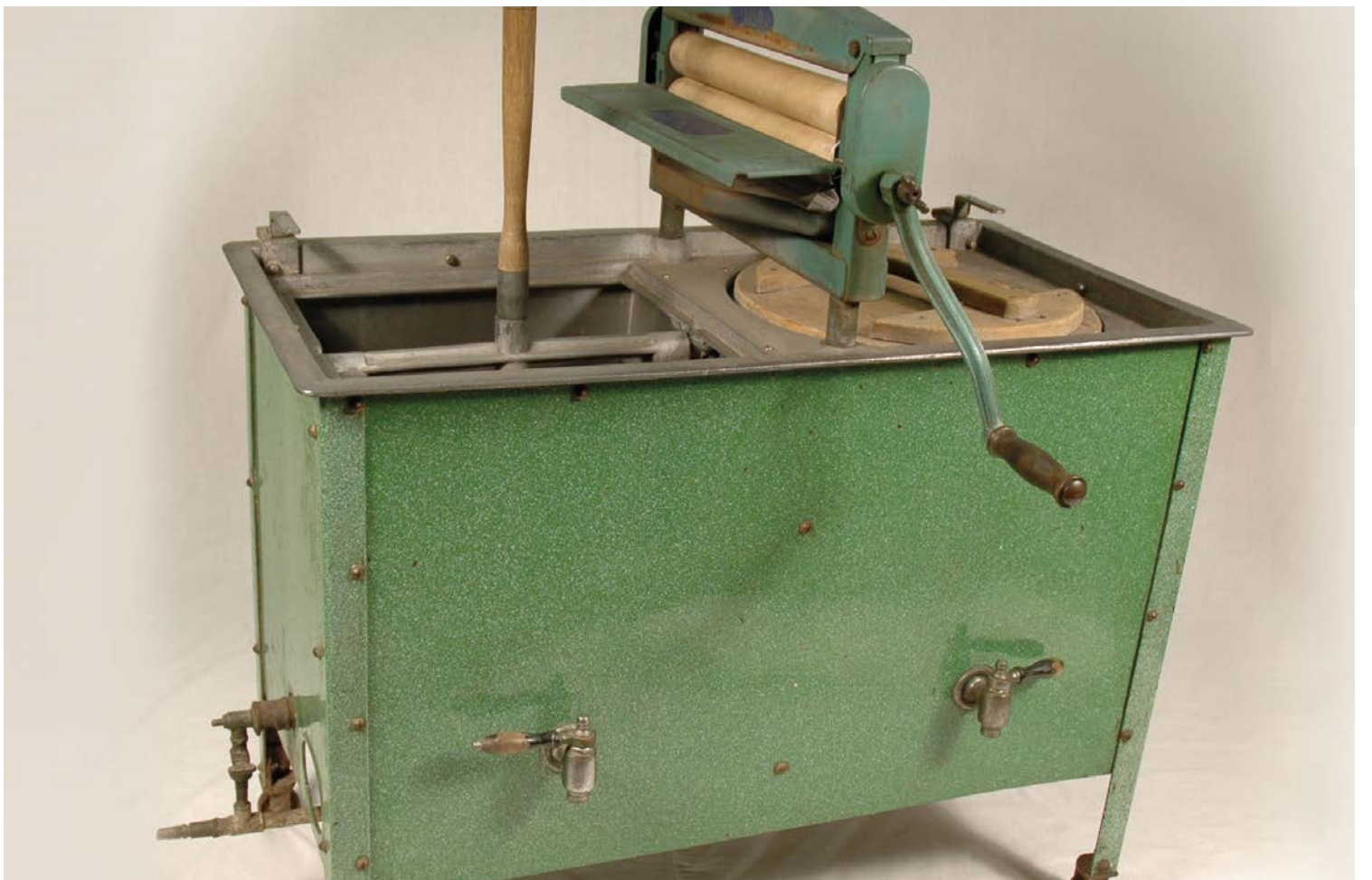
The tub to the right was used for boiling the washing in soapy water. It was then lifted out with a pair of giant wooden tongs and placed in the left-hand tub, which was used for washing and rinsing – the hand agitator helped to move the clothes through the water. Finally, the clothes were wrung out one-by-one through the mangle on the top before being hung out to dry. It could take a whole day to do a family's washing – and that's before it was ironed!

The twin tub was filled with water from the kitchen tap, and then emptied via the taps at the bottom – usually fitted to a hose – into the kitchen sink. The water was heated via a gas burner at the bottom.

Look closer

- ◆ How much washing do you think could be done at once in this machine?
- ◆ Can you see the mangle? How do you think it squeezes out the water?
- ◆ How is this different to modern washing machines?





4 Hairdryer

(1920s)

Hairdryers like these were used in hairdressing salons. A small gas burner was lit at the bottom and the hot air produced was drawn up to the hood which directed it towards a customer's head.

This hairdryer was used in a hairdresser's in Nottingham, right up until the 1960s - they preferred it to the more modern electric dryers which could be noisy. Unlike modern hand-held hairdryers there was no mechanism to 'blow' the hot air.

Look closer

- ◆ Can you see what the hairdryer is made from?
- ◆ Do you think it would be safe to touch while it was being used?
- ◆ How is this different to hair dryers today?





5

Curling tongs and stove

(c.1910)

These tongs were also used by hairdressers. The row of gas burners heated up the tongs, which could then be used for curling hair. The user had to be very careful not to burn themselves, as the metal handles could also become very hot!

Look closer

- ◆ Can you see where the gas was piped in?
- ◆ How might these tongs have been made safer to use?
- ◆ What do people use today to curl or straighten their hair?







Irons

(c. 1850 – c.1935)

These images show a flat iron - sometimes called a 'sad' iron (c.1850)¹, a blue Otto gas iron (c.1911)², a black and green Fairy Prince 375 gas iron (c.1935)³ and a Hatter Atmos mini gas iron (c.1930)⁴.

Before the invention of gas and electric irons, towards the end of the 1800s, irons were usually heated by placing them on a stand or 'trivet' on a stove or fire. These would cool fairly quickly and needed to be reheated before they could be used again – the trick was to have two or three irons heating up in rotation.

The gas iron, could be heated directly, cleanly and constantly via a burner in the bottom. The Otto offered extra features such as a cool handle, a flame guard and no smell from the heated parts.

Look closer

- ◆ Can you see where the gas comes into the iron?
- ◆ Why do you think the 'Otto' iron was described as having a 'cool' handle?
- ◆ How are these irons different from irons today?
- ◆ What do you think the mini iron might have been used for?



1



2



3



4





Vogel gas-powered fan

(c.1910)

Gas fans like this one became popular because they were silent – early fans powered by electricity are said to have made an ‘objectional noise’.

This fan was driven by a ‘hot air engine’, also known as a Stirling Engine, after Robert Stirling who invented it in 1816. It works on a simple principle: when the air in the cone is heated up by a gas flame it expands, pushing a piston which drives the fan. The air then comes into contact with a plate at the top and cools and the piston falls. The cycle then begins all over again, and again and again.

Look closer

- ◆ How is this different or the same as modern fans?
- ◆ Have they changed much in the last 100 years?
- ◆ How could this fan have been made safer?





8

Coronet projector

(c.1913)

This projector used a gas flame to light up picture slides and project them through the lens. The lens could be extended outwards, on a set of concertina-like bellows (like the first Victorian cameras) to adjust the focus.

Look closer

- ◆ What sort of pictures might people have wanted to look at through a projector 100 years ago?
- ◆ Why do you think there is a chimney on the top of this projector?
- ◆ Where might you have seen one of these?





"CORONET" PROJECTOR
c 1913?

The name gives bears the title of the patent (1913) but the date of manufacture is not known. It used a naked flame, and the light source could be moved horizontally to achieve best results. Powered by wheels on base which moved down which operated bellows. The focusing of lens.

Donated by Mr. H. H. H. H. H.



Gas-powered radio

(c.1938)

The gas-powered radio was developed in 1938 by Henry Milnes. It was linked to a generator which created an electrical charge when heated by gas. The charge was stored in an accumulator – a sort of rechargeable battery. The development of the gas radio was interrupted by the start of the Second World War in 1939 and, despite the potential, it never really took off.

Look closer

- ◆ What is this radio made of?
- ◆ Zoom in on the dial at the centre – can you see the names of the different radio stations?
- ◆ What do radios look like today? What other devices can be used to listen to the 'radio'?





10

Waffle iron

(c. 1950s)

After food rationing finally ended in the early 1950s, ingredients like butter, sugar, cheese and meat became more readily available, and with them came a new trend. Designed to cater for the growing ‘teenage’ market, the first American-style cafes and bars opened in the UK, selling burgers, milkshakes – and waffles.

At first, waffle makers were held over a stove to cook the batter inside. This waffle maker was heated by gas in the chamber underneath. Halfway through cooking, the waffle iron could be rotated on pivots at each end to heat the other side.

Look closer

- ◆ How many waffles can this waffle iron make at once?
- ◆ Do you know how waffles are made?
- ◆ Why do you think you need to turn the waffle iron over halfway through cooking it?



