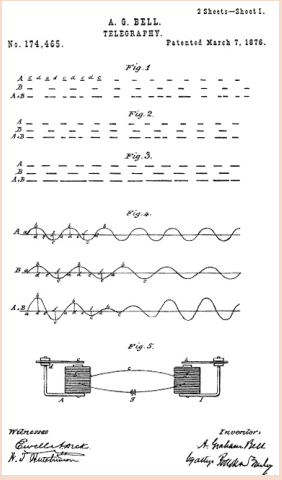
Hands On Learning
with Reading Museum Service

TELEPHONE AND HEADSET H161/A



We wouldn't think twice about picking up the telephone and having a conversation with a friend - even if they were on the other side of the world. 100 years ago it would have taken two weeks to send a message that far by post and then there was another two week wait for the reply! The telephone has really changed the way we communicate. Most people couldn't imagine living without one. However, at the time of their invention some journalists wrote that telephones were an amusing toy, but there was no real future for them!

Many people contributed to the development of the telephone, but Alexander Graham Bell is agreed to have been the first to patent the invention and claim it as his own. In 1876 he managed to submit an application for the patent just hours before his rival Elisha Gray and a few weeks before Thomas Edison. The picture at the top shows Bell in 1876 speaking into his new invention with the patent underneath.



2 Sheets—Sheet 1.

A. G. BELL.
TELEGRAPHY.

No. 174,465. Patented March 7, 1876.

Fig. 1

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Witnesses
Chas. A. Smith
M. J. Whittemore

Inventor.
A. Graham Bell
by his Attys Pollock & Bailey

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The first words ever spoken over the telephone were not very exciting or monumental! Bell said to his assistant, who was in another room, 'Watson, come here, I want to see you'. Imagine if it were you - what would you have said?

This telephone dates from 1910 and was made by a company called RT & EW Ltd. The mouthpiece (the microphone) and bell are made of steel and the hammer for the bell is made of brass. The ear-piece (receiver) is made from bakelite, which was an extremely popular plastic material used for hundreds of electrical and household items in the early twentieth century. Look closely and you will see that there is a small dent in the earpiece. This made it more comfortable to hold next to the ear. This telephone was not very user-friendly. It was attached to the wall and you had to speak into the mouthpiece on the front whilst holding the earpiece to your ear. But what if you weren't of average height? You would have to either stand on something or bend down to speak into it!



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There have been many scientific developments since Bell's first model but the basic principle remains the same. When you speak into the mouthpiece the sound waves from your voice are carried by an electrical current along a wire and into the receiver of the other person's phone. There is a device in the receiver called a diaphragm, which vibrates with the flow of electrical current. The vibrations are stronger or weaker depending on whether loud or soft sounds are made. These vibrations cause air to move and create new sound waves and the listener hears the words of the speaker.

Think about a modern telephone - what is missing on this one from 1910? The buttons for the numbers! It wasn't until the 1920s that numbers appeared on telephones. To call somebody before that date you needed to press the button on the side of the wooden box, which sent an electrical current along the wire and lit up a bulb at the telephone exchange. On some telephones there was a handle to turn instead of a button to push. Then you could speak into the mouthpiece and ask the operator to connect you.



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The operator sat in front of a large board and put a plug into the hole for the person you wanted to call, literally connecting your wires. The operator used a headset, like the one in the box, to speak to the caller. Both hands were needed to move the plugs around, so this headset is 'hands free'. Unfortunately the earpiece is missing on this set. The huge plug on the end of the headset wire connected the operator to the caller so that they could ask 'which number please?' Sometimes they would leave their wire plugged in and listen to people's conversations! This picture shows a woman operating a telephone exchange board.

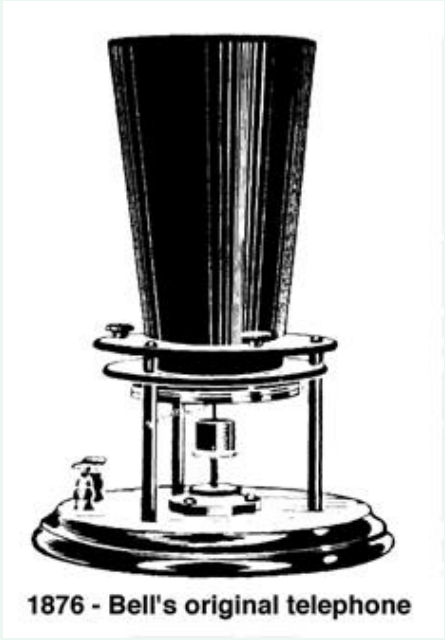
How do we know when someone wants to speak to us? We hear a ringing sound. This is now an automatic process triggered by dialling a number, but when this telephone was being used the operator would apply a high voltage to the line, which triggered the bell to ring.



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Look how far telephones have come in just over 100 years.



1876 - Bell's original telephone



