Samuel Morse had the idea for faster, long distance communication after his wife died and he was unaware of it for days. When he got to his home in New Haven, his wife was already buried.

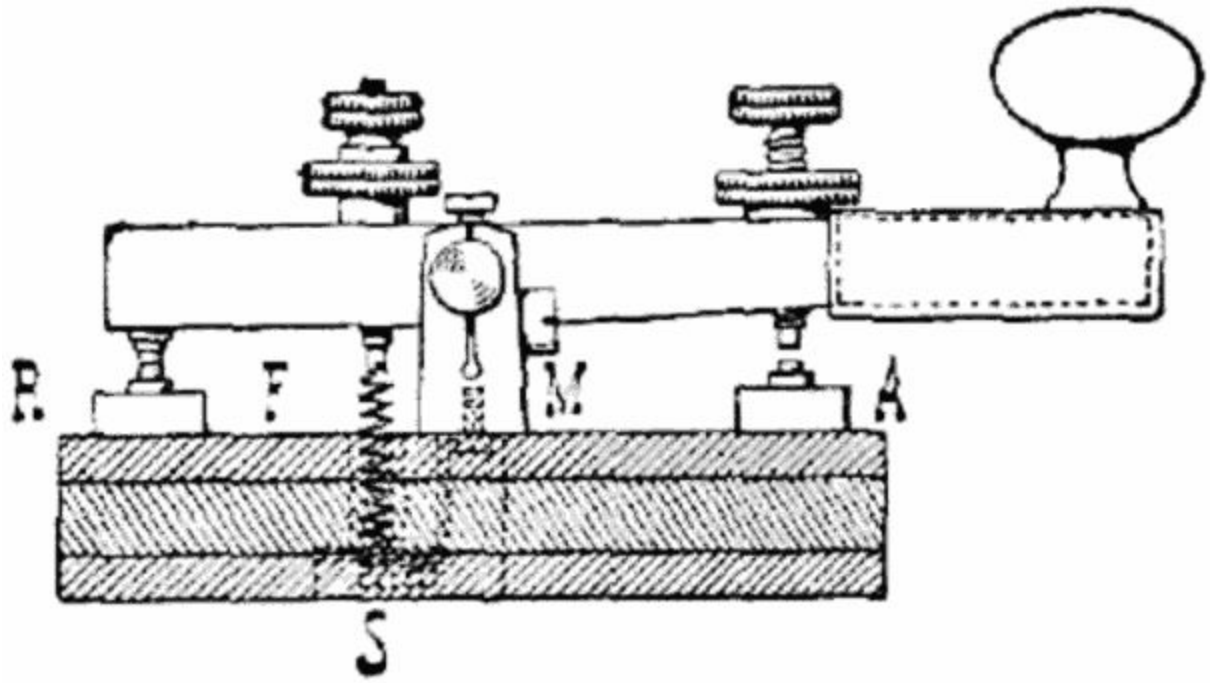
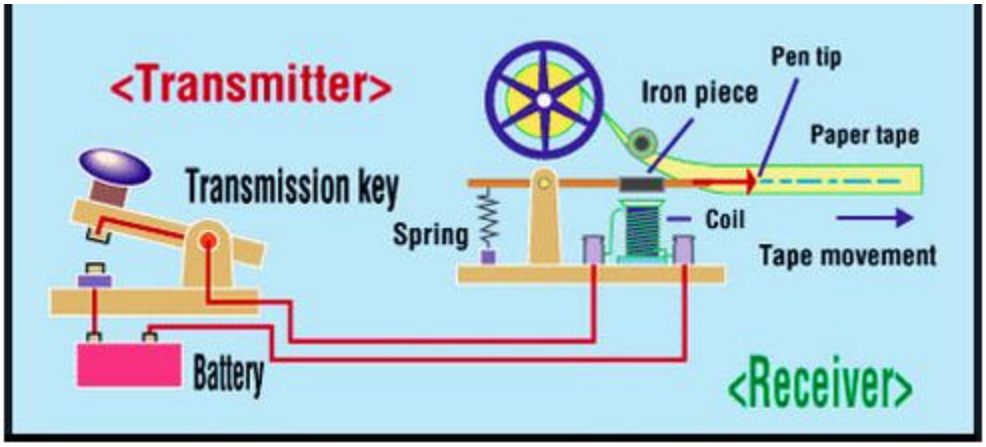


Fig. 6.

This a Morse system, invented by Samuel Morse. His assistant, Alfred Vail, developed the Morse code. There was a controversy over who invented the Morse code, Vail or Morse.

Morse code, developed by Alfred Vail, became the primary language of telegraphy in the world.



When Samuel Morse was leaving Europe, he ran into Charles Thomas Jackson. Jackson learned a lot about electromagnetism and Morse created the single-wire telegraph while experimenting with Jackson's electromagnet.

During the Civil War, President Lincoln used a telegraph to follow the everyday action.

The military used telegraphs during the Civil War.

The Background of Telegraphs

The first telegraphs were optical telegraphs, that would use things like smoke signals, reflected light, and beacons. An optical telegraph system was proposed by Robert Hooke to the Royal Society in 1684 and was brought up to an experimental level in 1767 by Sir Richard Lovell Edgeworth. Then, electrical telegraphs are telegraphs that use electric signals and took the place of optical semaphore telegraph systems that used semaphore lines, like the Chappe system created by the Chappe brothers for the French military during the French Revolution. This means that electrical telegraphs were the first forms of electrical telecommunication, communication through electrical signals. In the United States in 1837, Samuel Morse developed this device independently and the Morse code was developed by Alfred Vail, his assistant. In 1844, Samuel Morse sent a message, by Morse, reading, “WHAT HATH GOD WROUGHT.” This message traveled across 2 miles of wire and was the first telegram in the United States, sent on January 11th. The telegraph brought an end to the Pony Express, a mail service that traveled by horseback and delivered many things like: mail, messages, packages, and newspapers.

The Science of Telegraphs

When the key on the telegraph is pressed, the electric circuit between the key and the receiver is completed. The current energizes the electromagnet in the receiver and this energy attracts a lever, lifting an inked roller on the other end to press against a passing paper strip. As long as the key is pressed, the electric circuit will be maintained and the roller will be pressed against the paper. Holding the key down for longer periods creates dashes on the paper and for shorter periods it creates dots. These dots and dashes form a code called Morse Code and breaking the circuit allows the roller to fall away from the paper. To make this invention work, you would need knowledge in how electricity works and mechanics, for the use of the inked roller with the lever and the key.

The Business of Telegraphs

The telegraph was a completely new product that people could use, it introduced a completely new product. It also opened up new markets for transportation, capital, and produce. All I could find was that it opened up telegraph businesses for the communication using telegraphs, not much more. The lessons learned from the study of the telegraph can be applied to a business today because of communication. Communication and the speed of it is very very important for a business, especially businesses today. For example, a business would need communication with their customers if they are placing an order, or they want customer service, or any other help for convenience.

The Innovation of Telegraphs

An electrical telegraph allowed people to communicate using Morse code. Before this, people would use optical telegraphs, which used visual signals with shutters on towers to communicate. To deliver messages, mail, and packages, people used the Pony Express, which telegraphs put an end to. These telegraphs could instantly send messages across continents and oceans, decades after the telegraph was invented. This was a very big improvement in communication and it was also improved on by reducing the cost per message and increasing the sending rate. In the year 1855, a telegraph that used a keyboard with 26 keys on it (for the alphabet) was invented by David Edward Hughes. This was called a printing telegraph and it was very stable and accurate. Many other people created improvements such as a letter-printing telegraph that would print the letters onto a paper, and a chemical telegraph (invented by Alexander Bain). There were many improvements on this device and soon later, somewhere around the 1870's, Alexander Graham Bell invented the telephone. This telephone would allow people to communicate to each other in real time, using their voices. So instead of using Morse code, their voice would convert into electronic signals, go through a wire or cable to a local exchange, and then back through a wire or cable to the other person (if they were to live near each other). Now, there are many different opinions on who invented this device, but I just went with Alexander Graham Bell. As you can see, the telegraph was an improvement in communication, was improved on in many different ways, and made advancements in communication possible.