

## Just Who Did Invent Radio?

If you're sure you know, the answer may surprise you.

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There's a lot of interesting history in the realm of radio and its child, television. The players include inventors, businessmen, performers, and lots of other people. Unfortunately, the vast majority of this information has not been made available to the masses!

### Marconi

First of all, ask the average American, "Who invented radio?" If they know at all, the reply will usually be "Marconi." For most of my life, and that of my parents and grandparents, the inventor of radio has been, according to all the history books, Guglielmo Marconi, born in Bologna, Italy, on April 25, 1874. Marconi was the son of a very successful Italian businessman with extensive business ties to Great Britain.

Marconi was interested in wireless telegraphy (radio) from an early age, and conducted experiments on his father's estate starting in June of 1895. Later that year he was able to send messages up to one-and-a-half miles.

Seeing the commercial potential of communications with ships, the 22-year-old Marconi went to England where, in 1896, he was granted his first patent on radio communications. Later, with the help of his father, Marconi contacted a number of influential British businessmen, and the Marconi Company was formed to develop wireless communications. Until about 1920, this company dominated the radio scene worldwide.

### Lodge and Fessenden

However, several years before Marconi even started experimenting, as early as 1888, Oliver Lodge (later Sir Oliver), a professor at Liverpool University, was conducting experiments in wireless telegraphy. Lodge was granted a patent on his system (which, by the way, was the source of the receiving detector used by Marconi - the coherer) in May 1897. This patent was purchased by Marconi in 1911.

At the same time, a Canadian university professor (Western University) named Reginald Fessenden was experimenting not only with wireless telegraphy, but with voice and music transmission as well. Also, he was interested in the radio control of boats. By the mid 1890s Fessenden was transmitting voice and music from the shore to people aboard pleasure boats on the St. Lawrence River.

### Dolbear

As you can easily see, both Lodge and Fessenden predate the experiments of Marconi but they were late-comers, for, in 1885, United States patent 350,299 had been issued to Amos Dolbear, a physics teacher at Tufts College. In fact, for a time, Dolbear was able to keep the Marconi Company from operating in the United States because of his patent for a wireless telegraphy system (which, by the way, was virtually identical to the system used by Marconi)! Later, the Dolbear patent was purchased by the Marconi Company, thus allowing them to use wireless in the United States.

## Loomis

Dolbear was also late on the scene, for, as early as August 15, 1858, an American dentist name Mahlon Loomis was beginning a series of experiments in wireless telegraphy within the state of Ohio! With the interruption of the American Civil War, Loomis continued his work. In October of 1866 he sent signals between two mountaintops, about 15 miles apart, in the Blue Ridge Mountains. Senator Samuel Pomeroy of Kansas and Representative John Bingham of Ohio were present at this demonstration. Both men later gave much support on Loomis' behalf in the U.S. Congress.

In January of 1869, Senator Charles Sumner of Massachusetts introduced a bill into Congress to appropriate \$50,000 (well over a million dollars in present-day purchasing power) for development of Loomis' system. This bill languished in committee for two years, at which time Rep. Bingham introduced a bill to incorporate the Loomis Aerial Telegraph Company, giving it the right to issue up to two million dollars worth of stock. This bill stated that no money was to come from the U.S. Government (one of the reasons the original bill was stalled in committee).

In early 1873, President Grant signed the bill into law, and a few months later, on July 20, 1873, Loomis was granted U.S. Patent 129,971 for the invention of his system. Unfortunately, Loomis' company had gone bankrupt during the stock market panic of 1869, and he was never able to garner enough financial support to put the system into operation.

Although Loomis died in 1886, he left his mark in other areas. He was not only an inventor in the area of radio, but he also held a number of patents in the field of dentistry, including methods of making false teeth and specialized filling materials and methods. Some of his ideas are still being used today!

## Patent Disputes

There are certain things to be noted about these early inventors. The first is that during this time period, patent offices would issue patents on working items only, either full-sized or models. Thus, Loomis, Dolbear, and the others had to actually demonstrate that their equipment worked! There was not patenting of ideas at that time.

Next, although most of the people involved were university types, they did not publish papers to the extent that papers are published today. Also, there was a lot of nationalism involved with something of such possible importance as communicating without wires.

Marconi had established a consortium of powerful British investors. Several of these were members of Parliament, and the rest were in a position to command the ear of that governing body. Because of this, both Lodge and Fessenden (Canada being a member of the British Commonwealth) were effectively silenced by governmental actions. The Marconi Company soon dominated the wireless (radio) scene.

From about 1900 until 1943, there were a large number of patent rights battles in the courts of the United States and Great Britain. Little by little, Marconi's patent empire was voided until, just before his death in 1943, his latest patent was vacated in favor of Nikola Tesla.

In fact, Marconi's list of patent fights included almost all of the inventors and pioneers of radio communications. People like deForest, Fleming, and others were in an almost constant fight with Marconi and his company. Because of these lengthy patent battles, the British Government did not wish to aid those fighting against the British-based Marconi Company. Therefore, they insisted that Marconi was the inventor of radio. It is unfortunate that this misconception is still being taught today.

Marconi, through the efforts of his British company, did more than anyone else to commercialized radio. However, he really did nothing himself in the actual invention of the systems. Everything he used was invented by someone else, and was actually used in two-way radio communications before Marconi. In Loomis' case, the patent was issued before Marconi was even born!

Because the history books of the early 20th Century taught that Marconi was the inventor of radio, it is still being taught today. This is unfortunate, for there were, in reality, several true inventors (each with a different system type) who were communicating before him. But such is the work of the history text writer.

There are other such tales about grossly wrong history texts, but these can wait for another time!