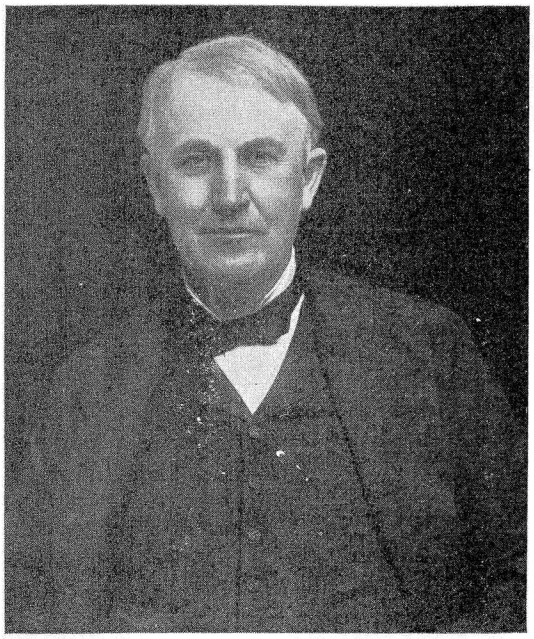
Thomas A. Edison

Death calls great inventor who developed many devices important to the railway signaling field

THE death of Thomas A. Edison at his home in West Orange, N. J., on October 18, brought to a close the career of one of the most remarkable characters in history. His particular genius consisted of carrying existing discoveries to the point where they could be converted into practicable devices. Combined with this he possessed the ability and energy to convince a skeptical public that it could profit by the use of his inventions.



Thomas Alva Edison

More than a thousand inventions have been credited to him, those which are probably of greatest importance being the perfection of the incandescent lamp and the development of a power system to supply it, followed by the creation of a demand for these developments. Other products of his genius and energy which are of special importance to the railroad signaling field are the Edison storage battery, the Edison primary battery, the telephone microphone, multiplex telegraphy and his influence on the early development of electric traction. Many other achievements can also be credited to him, but, generally speaking, probably the most important result of his work has been to take inventions out of the field of magic and establish them as a vital part of social progress.

Mr. Edison was born in Milan, Ohio, on February 11, 1847, and in 1854 his family moved to Port Huron, Mich., where he received most of his early education from his mother, who inculcated in him a love for reading. At the age of eleven he became a newsboy on the Grand Trunk Railway, and for a short time during the early years of the Civil war published a little newspaper with a circulation of 500, which he called "The Weekly Herald." This venture was terminated after the publication of 40 issues, by a fire in the baggage car in which he had been permitted to do his printing. Mr. Edison then entered the field of telegraphy, which he had learned from the station master at Mount Clemens, Mich., and obtained a position as night operator at Port Huron. In 1864, while working in Indianapolis, Ind., he perfected his first important invention, that of a repeating instrument which enabled a message to be transmitted automatically on a second line, without the presence of an operator. His first patent was for an electrical vote recorder. In 1871, he went to New York, where he associated himself with the Gold and Stock Exchange Telegraph Company, where he made many improvements to the stock ticker and other appliances. Selling out his rights on these devices, he established a factory and laboratory in Newark, N. J., where he carried out a contract with the Western Union Company and where he developed his greatest contribution to telegraphy—the quadruplex system of using the wires. In 1876, Mr. Edison gave up his manufacturing enterprises and established his laboratory at Menlo Park, N. J. It was here that the carbon filament electric lamp was developed in 1879. The phonograph followed, and it was at this time that he also attempted to create a satisfactory electric locomotive. In 1886, the laboratory and factory were established in Orange, N. J., where in 1887 the kinetoscope, or motion picture machine, was produced. Numerous other inventions were later developed here which have since found wide acceptance as manufactured articles.

Edison's Greatest Contribution

The incandescent lamp, Edison's greatest contribution to mankind, is likewise the most important of his inventions to the railway signaling field. It was no chance discovery. Edison was not the first to work on the principle of lighting by electricity. Electric arc lamps were in use in many localities and a number of scientists, not only in America but abroad, had for years been attempting to "subdivide" the electric arc. Edison studied their results and set to work to solve the problem. He concluded then an incandescent "burner" operating in a vacuum was the logical solution. He first tried heating various metals to incandescence, but when hot enough to produce light they melted. He tried more than 1,600 substances to find a substitute for metal, all without success. Reviewing his laboratory notes, he concluded that the most likely substance tried were the carbons. Paper, fabrics, wood and every material which could be carbonized were tried. More than 6,000 separate experiments were conducted in this search to find a substance which would give the desired result. With one assistant, Edison worked for two days and two nights attempting to carbonize a two-inch piece of cotton thread and insert it in a bulb. Three times pieces were successfully inserted in the bulb only to break before the electricity could be turned on. Finally a piece was inserted and when the electricity was sent through it, the filament glowed and continued to burn for 40 hours. This was the world's first successful incandescent lamp; it marked the beginning of a long period of painstaking developments, not only by Edison but by others as well, that has given us the electric lamp used so extensively in signaling.