Thomas Alva Edison

Born February 11, 1847 - Died October 18, 1931

Electric Lamp

Patent No. 223,898

Inducted 1973

One of the outstanding geniuses in the history of technology, Thomas Edison earned patents for more than a thousand inventions, including the incandescent electric lamp, the phonograph, the carbon telephone transmitter, and the motion-picture projector. In addition, he created the world's first industrial research laboratory. Born in Milan, Ohio, Edison was an inquisitive child. By the time he was 10 he had set up a small chemical laboratory in the cellar of his home after his mother had aroused his interest in an elementary physical science book. He found the study of chemistry and the production of electrical current from voltaic jars especially absorbing and soon operated a homemade telegraph set. In 1868 he obtained a position in Boston as an expert night operator for Western Union Telegraph Company; by day he slept little, however, for he was gripped by a passion for manipulating electrical currents in new ways. Borrowing a small sum from an acquaintance, he gave up his job in the autumn of 1868 and became a free-lance inventor, taking out his first patent for an electrical vote recorder. In the summer of 1869 he was in New York, sleeping in a basement below Wall Street. At a moment of crisis on the Gold Exchange caused by the breakdown of the office's new telegraphic gold-price indicator, Edison was called in to try to repair the instrument; this he did so expertly that he was given a job as its supervisor. Soon he had remodeled the erratic machine so well that its owners, the Western Union Telegraph Company, commissioned him to improve the crude stock ticker just coming into use. The result was the Edison Universal Stock Printer, which, together with several other derivatives of the Morse telegraph, brought him a sudden fortune of $40,000. With this capital he set himself up as a manufacturer in Newark, New Jersey, producing stock tickers and high-speed printing telegraphs. In 1876 Edison gave up the Newark factory altogether and moved to the village of Menlo Park, New Jersey, to set up a laboratory where he could devote his full attention to invention. He promised that he would turn out a minor invention every ten days and a big invention every six months. He also proposed to make inventions to order. Before long he had 40 different projects going at the same time and was applying for as many as 400 patents a year. In September 1878, after having viewed an exhibition of a series of eight glaring 500-candlepower arc lights, Edison boldly announced he would invent a safe, mild, and inexpensive electric light that would replace the gaslight in millions of homes; moreover, he would accomplish this by an entirely different method of current distribution from that used for arc lights. To back the lamp effort, some of New York's leading financial figures joined with Edison in October 1878 to form the Edison Electric Light Company, the predecessor of today's General Electric Company. On October 21,1879, Edison demonstrated the carbon-filament lamp, supplied with current by his special high-voltage dynamos. The pilot light-and-power station at Menlo Park glowed with a circuit of 30 lamps, each of which could be turned on or off without affecting the rest. Three years later, the Pearl Street central power station in downtown New York City was completed, initiating the electrical illumination of the cities of the world. In 1887 Edison moved his workshop from Menlo Park to West Orange, New Jersey, where he built the Edison Laboratory (now a national monument), a facility 10 times larger than the earlier one. In time it was surrounded with factories employing some 5,000 persons and producing a variety of new products, among them his improved phonograph using wax records, the mimeograph, fluoroscope, alkaline storage battery, dictating machine, and motion-picture cameras and projectors. During World War I, the aged inventor headed the Naval Consulting Board and directed research in torpedo mechanisms and antisubmarine devices. It was largely owing to his urging that Congress established the Naval Research Laboratory, the first institution for military research, in 1920.

Throughout his career, Edison consciously directed his studies to devices that could satisfy real needs and come into popular use. Indeed, it may be said that in applying himself to technology, he was fulfilling the ideals of democracy, for he centered his attention upon projects that would increase the convenience and pleasure of mankind.