

WHITNEY, ELI (1765-1825), American inventor, was born on a farm in Westboro, Massachusetts, on the 8th of December 1765. He exhibited unusual mechanical ability at an early age and earned a considerable part of his expenses at Yale College, where he graduated in 1792. He soon went to Savannah, Georgia, expecting to secure a position as a teacher, but was disappointed, and accepted the invitation of Mrs Nathanael Greene, the widow of the Revolutionary general, to spend some time on her plantation on the Savannah river, while deciding upon his future course. The construction by Whitney of several ingenious household contrivances led Mrs Greene to introduce him to some gentlemen who were discussing the desirability of a machine to separate the short staple upland cotton from its seeds, work which was then done by hand at the rate of a pound of lint a day. In a few weeks Whitney produced a model, consisting of a wooden cylinder encircled by rows of slender spikes set half an inch apart, which extended between the bars of a grid set so closely together that the seeds could not pass, but the lint was pulled through by the revolving spikes; a revolving brush cleaned the spikes, and the seed fell into another compartment. The machine was worked by hand and could clean 50 lb of lint a day. The model seems to have been stolen, but another was constructed and a patent was granted on the 14th of March 1794. Meanwhile Whitney had formed a partnership with Phineas Miller (who afterward married Mrs Greene), and they built at New Haven, Connecticut, a factory (burned in March 1795) for the manufacture of the gins. The partners intended to establish an absolute monopoly and to charge a toll of one-third of the cotton or to buy the whole crop. They were unable to supply the demand for gins, and country blacksmiths constructed many machines. A patent, later annulled, was granted (May 12, 1796) to Hogden Holmes for a gin which substituted circular saws for the spikes. Whitney spent much time and money prosecuting infringements of his patent, and in 1807 its validity was finally settled. The financial returns in Georgia cannot be ascertained. The legislature of South Carolina voted \$50,000 for the rights for that state, while North Carolina levied a license tax for five years, from which about \$30,000 was realized. Tennessee paid, perhaps, \$10,000. Meanwhile Whitney, disgusted with the struggle, began the manufacture of fire-arms near New Haven (1798) and secured profitable government contracts; he introduced in this factory division of labour and standardized parts. Although the modern gin has been much enlarged and improved, the essential features are the same as in Whitney's first model, and the invention profoundly influenced American industrial, economic and social history.

See Denison Olmsted, *Memoir* (New Haven, 1846); D. A. Tompkins, *Cotton and Cotton Oil* (Charlotte, N.C., 1901); and W. P. Blake, "Sketch of Eli Whitney" in *New Haven Colony Historical Society, Papers*, vol. v. (New Haven, 1894).