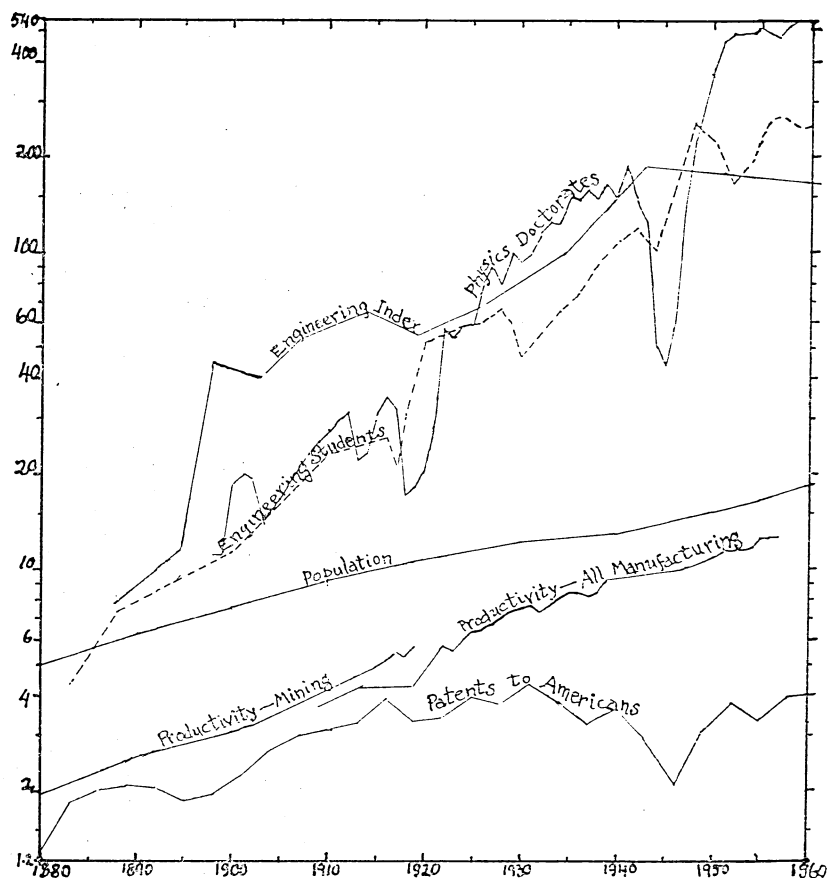


CHART 1

INDICES RELATED TO AMERICAN INVENTING, 1880-1960



invention or development or for such research as is usually invention-oriented, or else likely to be soon utilized for invention—all this flood of gold should be transmuted yearly into a flow of inventions worth more to the paying authority than their cost—or else the principles of economics are wrong, and a host of business leaders and highest Government officials have been buying billion dollar blunders for years. So we have plotted on chart 3 the funds provided for organized research and development by the Federal Government,^{55, 56} and by com-

⁵⁵ Estimated expenditures by the Fed. Govt. for scientific R&D for the fiscal year 1962 was \$10,172,200,000, including military personnel and procurement funds and increase of plant for R&D. This is in contemporary dollars, not stabilized dollars as in chart 2. While serving some purposes of science, agriculture, etc., unrelated to invention proper, these expenditures for R&D were 92% for the military, aeronautical, mining, postal, and other offices whose research we assume to be invention-oriented, viz., \$9,387 million. Or divided according to character of work, the obligations for conduct of R&D in 1956 were allotted as 7% for basic research, 31% for other research, and 62% for development. Divided by scientific fields, the 1956 funds for research went 54% to the engineering sciences, 18% to the physical sciences proper, and 28% to the life, agricultural, and mathematical sciences. For sources see N 56.