

St. which have established research laboratories on an extensive scale, and many of these expend from \$100,000 to \$300,000 annually on research work alone. They know that it pays and, consequently, they extend and expand these laboratories year by year. Among these may be mentioned: The General Electric Company, Schenectady; the Eastman Kodak Company, Rochester; The H. K. Mulford Company, Philadelphia; the Dupont Powder Company, Wilmington; the Edison Company, Orange; the American Rolling Mills, Middleton; the National Cash Register Company, Dayton; the Westinghouse Electric Company, Pittsburg; the Pennsylvania Railway Company; the National Cannery Association, Washington; and the Vacuum Oil Company, Rochester.

The General Electric Company organized a Research Department in 1901, on which this Company has now made a capital expenditure of over half a million dollars, with an annual expenditure of about \$250,000, and a research staff of about 200 men. The Dupont Company in times of peace have 250 chemists in their employ—now they have no less than 652.

The results which keen scientific research has accomplished within the past few years, when applied not only to new industries, but to some of the oldest occupations of the human race, are most striking. As a single instance of this the researches into improved methods of making bread recently carried out at the Mellon Institute of Pittsburg, Pa., may be cited. A company of bakers doing a very large business established at this remarkable centre of research a "Bread Fellowship" for the investigation of the question as to whether an improvement in the very ancient art of bread making might not be effected by the application of scientific methods. With the expenditure of some \$5,000 certain discoveries were made almost immediately which enabled the company to effect a saving of \$500,000 per annum in its business. The company paid the investigator a bonus of \$10,000 and requested him to continue his work. By the end of four years the investigation had produced such important additional results that the company paid the investigator an additional bonus of \$10,000, and again requested him to pursue his investigations still further. So successful have these researches been and so profitable have they proved to the company that a third bonus of \$10,000 will probably be paid in the immediate future. All this saving in cost of manufacture has been