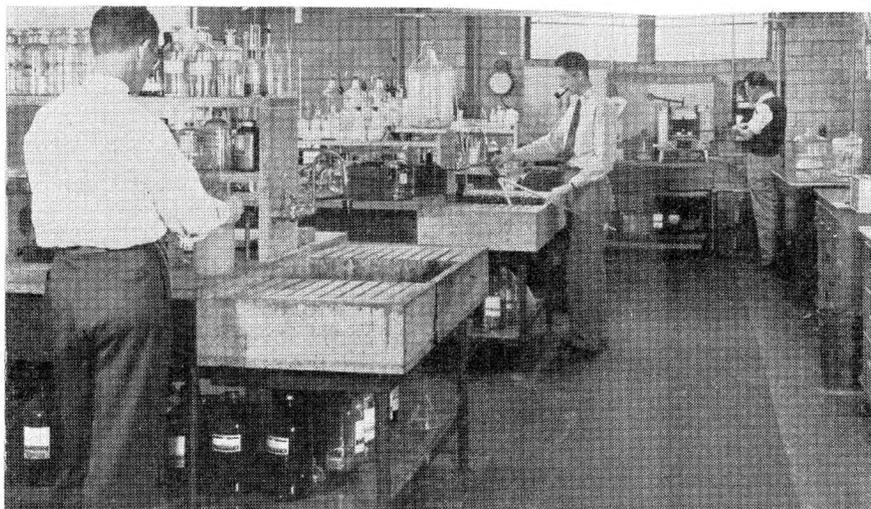


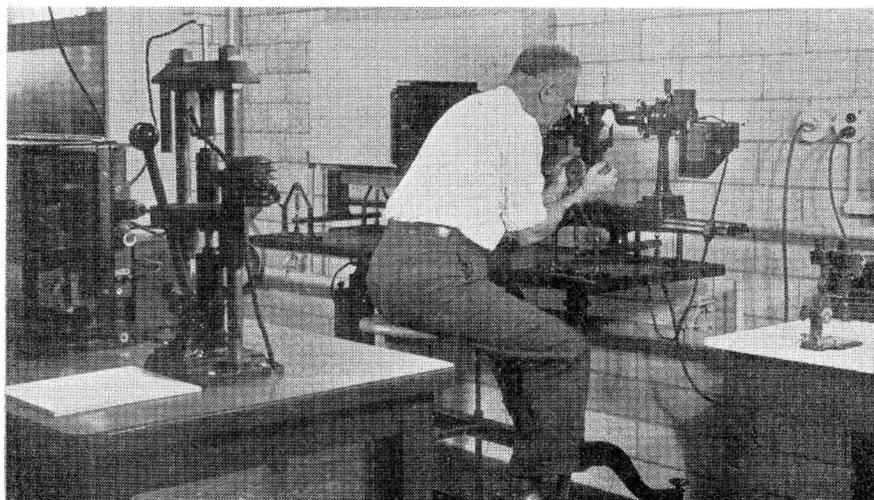
Signal Research and Development



The chemical laboratory plays an important part in the control of materials



This laboratory conducts developments in the use of electronics



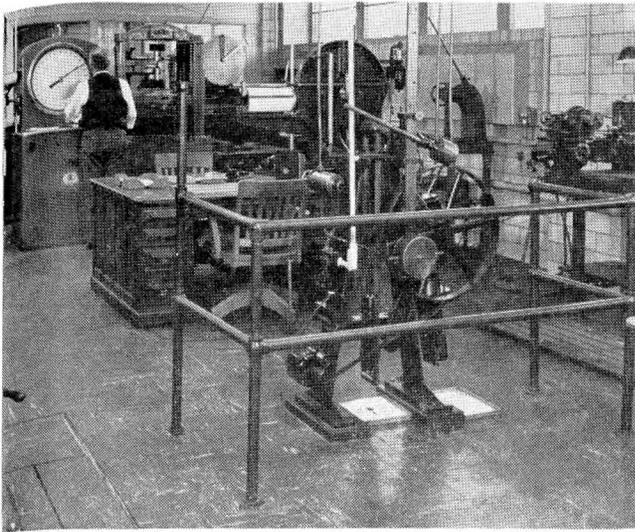
Metallurgical laboratory conducts studies in the crystalline structure of metals

At its plant in Rochester, N.Y., the General Railway Signal Company has recently constructed and completely equipped a new building in which research, development and engineering activities are to be greatly expanded and brought under one roof. This new building is 100 ft. by 160 ft., with a basement and two stories, totaling 50,000 sq. ft. of floor space. In the basement are the transformer vault, laboratory electric service, tracing vault, chemical, metallurgical, mechanical and physical testing laboratories, a meter room and cafeteria. The first floor has a large laboratory devoted solely to new developments, a model-making shop, library, conference room, development engineers' offices and a designing room. The second floor has drafting, blueprint and photostat rooms, an electrical laboratory and engineers' offices. On the roof is a radiation laboratory and air-conditioning machinery for the entire building.

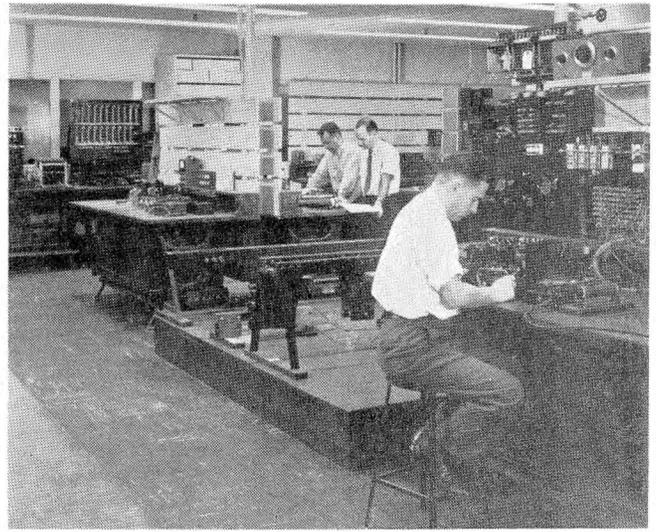
There are six principal laboratories in the new building—chemical, metallurgical, physical, mechanical, electrical and development. Besides these there are two others—photometric and electronic—in adjacent buildings. A substation, with power distribution panels, supplies the labs with electrical energy of practically any voltage and frequency.

The substation in the basement has 17 motor-generator sets to provide electrical energy of the voltage and frequency required at the lab benches. Each bench has an outlet box wired directly to distribution panels in the substation. Energy is distributed from the power panels to the distribution panels through detachable rubber covered wires equipped with plugs on either end. Besides the rotating machinery there are transformers, batteries, rectifiers for charging batteries, power-driven interrupters to provide intermittent energy to devices on life test, and the usual substation control and measuring instruments. At some lab benches where control over the voltage is critical, a bank of storage batteries with its own charging apparatus is provided. Technicians are thereby able to tap off the voltage they require and keep it under their control.

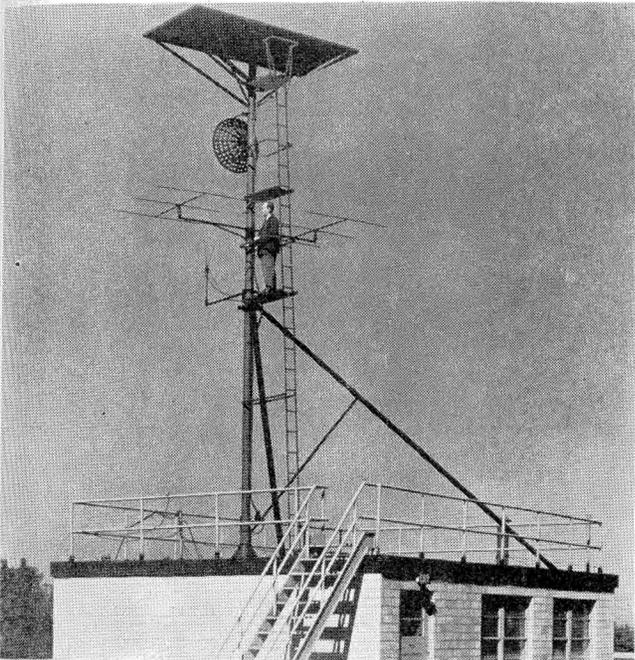
Besides investigating materials the chemical and metallurgical laboratory plays an important part in the



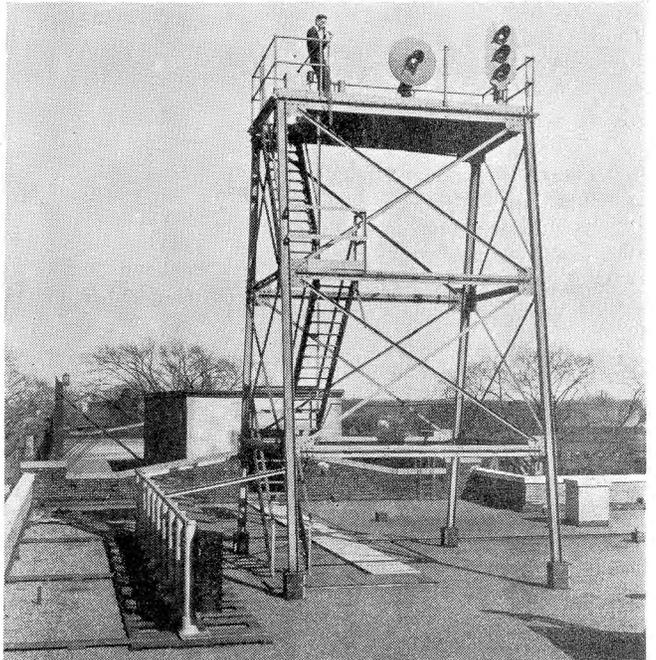
Testing hardness and tensile strength of materials



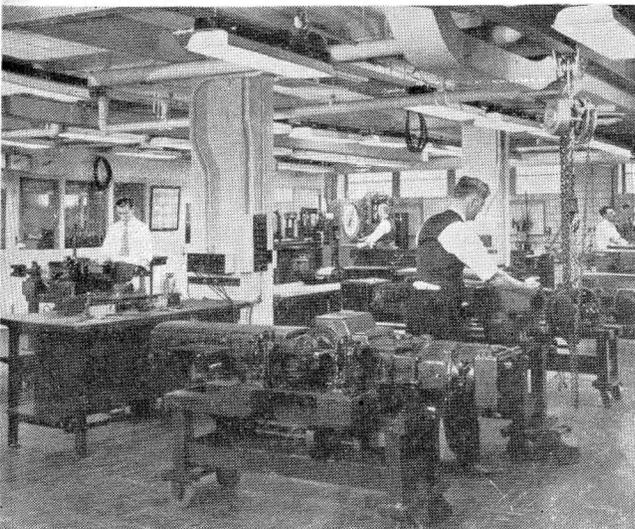
Electrical laboratory includes tests of circuits



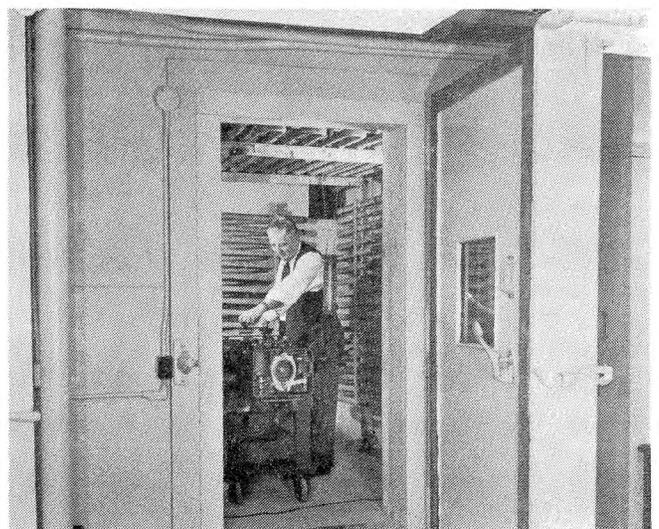
The radiation tower is a part of the electronic research



Part of photometric equipment for testing signals



Switch machines are tested in the mechanical laboratory



Cold room operates at down to 30 deg. below zero