*Tests on Rock from Cobb River Dam-site.*—Comprehensive tests of the physical properties of foundation rock from the Cobb River dam-site have been completed.

*North Island Ironsands.*—The separation by mechanical or simple chemical means of titanium from the iron in the titaniferous magnetite of the North Island west coast ironsands has been investigated by x-ray crystallographic technique. The minerals are so intimately mixed that there is little hope of finding any economic means of separating them mechanically.

### Building Research Projects

(See Building Research report, p. 8.)

### Instrumentation Laboratory

*Clinical Sphygmograph.*—Development work is proceeding on an apparatus designed to give a visible and permanent record of changes in blood-pressure in the human subject during the course of surgical procedures under general anæsthesia.

*Other Projects.*—The following is a selection of the instruments developed or investigated: frost-alarm, photofinish equipment for racing, beehive-temperature recorder, and aircraft-weighing machine.

*General Calibration and Testing of Instruments.*—This Laboratory has had an increasing volume of work of this category because no substantial diversion of commercial instrument-repair has been possible as yet to private firms. The latter is precluded because of the somewhat specialized equipment and techniques involved.

### Standards Laboratory

The following standards are at present being set up: electrical, linear, mass, temperature, photometric measurements and standards, and the barometric standard. The officer in charge of this section returned from overseas, and a start has been made in developing techniques and methods associated with Standards practice. Orders and estimates are being prepared to build up equipment to a level consistent with the Standards legislation, 1945.

### Design Section

Major projects handled by this Section included river-stage recorder (for recording river-levels), vehicle-volume counter, portable chronograph, sun camera, fruit-bud apparatus (to test frosting temperatures), ultra-centrifuge, and mechanical high-vacuum pump (for fish-liver-oil distillation).

In addition to the above, a number of smaller projects have been handled and a large amount of routine drawing and tracing work undertaken.

### Electrical, Electronics, and Acoustics Laboratory

The work of this Laboratory falls into three main categories: development of electrical and electronic aids to engineering and industry, instrumentation for reserach and survey work, and routine electrical testing.

*Aids to Engineering and Industry.*—A cross-cut of the work includes construction of grass-seed and flax-fibre moisture meters, sealing of pliofilm bags using radio frequency di-electric heating, and measurement of thickness and location of flaws in metal by supersonics.