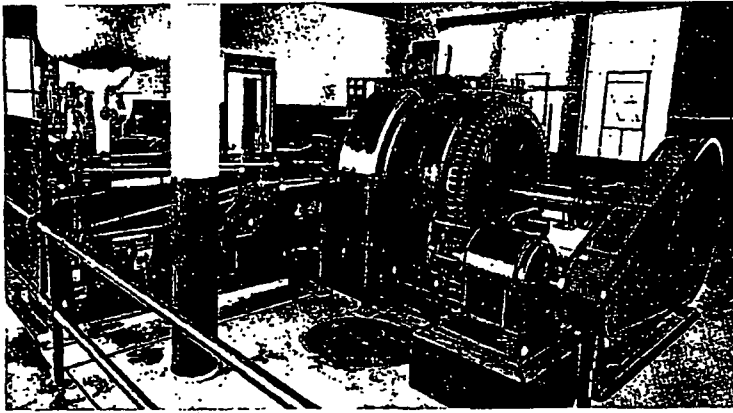




*The Elliott 150-kw. engine-generator unit (four-valve engine, a.c. generator) which generates all electric power and furnishes heating steam for The Colony for Epileptics at Cambridge, Minn.*

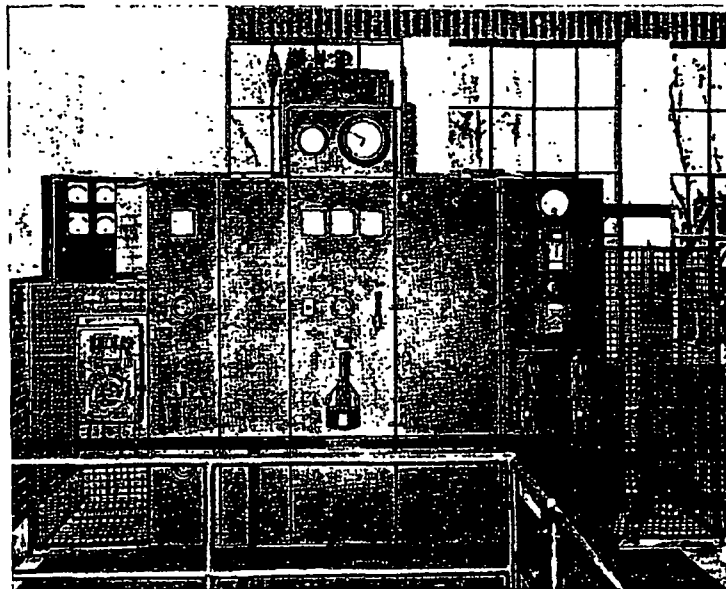
buildings for patients, garage, shop building, and power plant. On the adjoining 700-acre farm are the usual farm buildings of a large institution. The present population of the institution is about 1400. The electrical load consists of the lighting load for the various buildings, power for a baking plant and similar requirements, auxiliary power, etc. All power required in the institution is generated and exhaust steam is used for cooking and hot water requirements in the summer and for heating in the winter. The chief engineer of the plant, Mr. Arnold Bakken, has been with the institution since its inception.

The Colony for Epileptics at Cambridge is a comparatively new institution with a present population of around 600 people. Originally only a boiler plant was installed and power was purchased. (This was one of the very few Minnesota State Institutions to purchase current.) An engine room had been provided but no generating unit was installed until 1932. The institution had grown to the point where it was found desirable to generate its own power and the Elliott 150-kw. four-

valve engine driving an Elliott alternating-current generator, illustrated, was installed. Even though the maximum peak load at the present time does not go above 80 kw., it is saving the institution considerable money to generate its own power. The new unit was installed in December 1932 and went into operation a

month or so afterward. It runs 24 hours a day, being shut down only occasionally between the hours of midnight and 4 A.M. In considering the installation of this engine-generator unit, single-valve, four-valve and uniflow engine types were thoroughly studied, but the Elliott four-valve engine best fitted into the heat balance scheme in this institution as it does in most of the other state institutions. The engine operates on 160-lb. steam and exhausts at atmospheric pressure in the summer for cooking and hot water heating. In the winter a heating load is added and the engine operates against 2 lbs. back pressure.

The third engine installation, to which reference has been made, was the Elliott 150-kw. four-valve engine direct-connected to an Elliott direct-current generator which was installed at the State Asylum at Anoka. Its duties are very much the same as at Willmar.



*The switchboard at Cambridge, furnished by Elliott Company.*