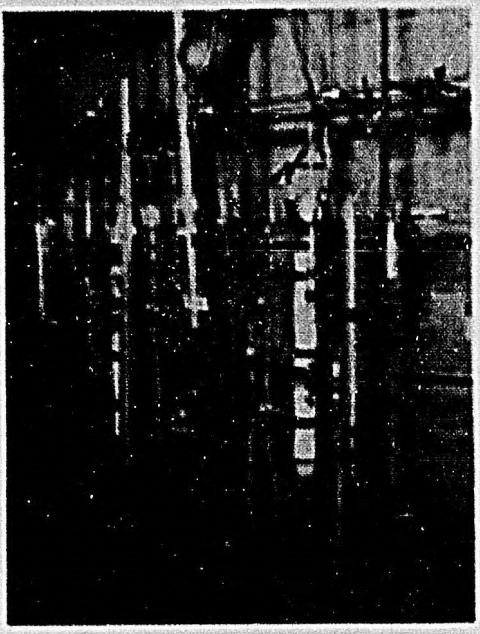
SCIENCE — By the Editor



GAS ANALYSIS APPARATUS

The cause of Science is being advanced here under the Golden Dome by the Chemistry Department. The apparatus pictured above is one portion of a complex set-up to study the kinetics of the thermal and photochemical decomposition of Aluminum tri-methyl.

After long and tedious work Aluminum tri-methyl was prepared here at Canisius. It is difficult to prepare and purify because of its high inflammability and the danger of minute impurities of air which cause it to ignite and to burn almost instantaneously. Cornell University announced in 1941 that the compound had been prepared there. The work here at Canisius marks the second time that it has been prepared in this country.

The purpose of the research is threefold; first, to throw light on a disputed point concerning the decomposition of free-radicals, specifically the mechanism of methyl radicals in gaseous reactions, initiated by heat and light. Second, the use of the compound, Aluminum tri-methyl, as a source of radicals in the kinetic study of other compounds for evaluating the bond energies in hydrocarbons. Third, to obtain additional experimental data to elucidate the nature of the Al-Al bond in the dimer molecular state in which the compound exists in the liquid and vapor phase. This is very interesting since no valence is free for the Al-Al bond.