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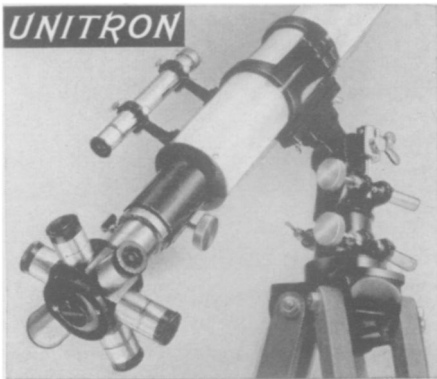
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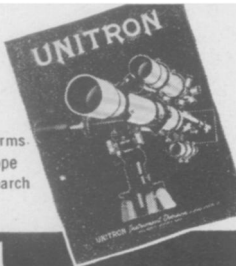
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ENGINEERING

"Jets" for Industry To Have Nuclear Uses

► THE JET engines that power supersonic jets are now being harnessed for electric power generation.

In the future, jet engines are expected to be the "prime movers" of industry, as well as the means to change the energy from nuclear reactors into usable electrical energy, it was learned at the Pacific meeting in Pasco, Wash., of the American Institute of Electrical Engineers.

The "jet engine," technically a gas turbine, uses the energy from burning, expanding fuel gases to drive a turbine at very high speeds and temperatures. In planes, the hot gases are expelled to create a "jet" that drives the plane, and the turbine serves to increase the speed of the gases through the jet. In generating electric power on the ground, the whirling turbine is linked to an electric generator, and the hot gases are put to a more efficient use.

Tracing the development of the industrial gas turbine since its invention in 1945, K. L. Rieke and W. N. Hornberger of Westinghouse Electric Corporation reported that the gas turbine power generating capacity to be installed in North America during 1957-58 is 180% of that installed during the past 11 years.

The modified "jets" are most popular today as "electrical co-pilots," taking over when the demand for electricity puts too great a load on regular coal- or oil-fed steam turbines. They are also used right along with steam turbines to make a more efficient generating plant, using the waste heat and steam from the steam turbine to increase the power of the "jet."

Preliminary drawings of a proposed nuclear gas turbine have already been made.

Science News Letter, September 7, 1957

MEDICINE

Mental Patients Treated With Convulsive Vapors

► A DRUG that causes violent convulsions when its vapor is inhaled has been tested as a substitute for electroshock treatments for mental patients.

The first four trials of the vapor are reported by scientists from the University of Maryland School of Medicine, Baltimore, and the Air Reduction Company, Murray Hill, N. J., in *Science* (Aug. 23).

The convulsive drug is a type of ether known as hexafluorodiethyl ether and its effects were discovered while similar compounds were being tested for their sleep-producing abilities.

White rats exposed to low concentrations of the vapor began to have convulsions within 30 seconds, but these stopped quickly when the agent was removed from the air.

Its possible value in mental illness comes from its lack of physical after effects. Repeated exposures on subsequent days in animals did not appear to produce any bodily changes.

Four patients suffering from mental disturbances in which electroshock therapy was

indicated were subjected to the vapor. Each had a seizure resembling that following electroshock.

A short period of unconsciousness followed the convulsion and then the four patients recovered uneventfully. There appeared to be no clouding of memory. Two patients were more cooperative than they had been before the treatment.

The comparatively simple procedure might be found useful in the treatment of certain mental patients, the scientists, Drs. John C. Krantz Jr., Edward B. Truitt Jr., and A. S. C. Ling, School of Medicine, University of Maryland, and Louise Speers, Air Reduction Company, Inc., Murray Hill, N. J., conclude.

Science News Letter, September 7, 1957

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