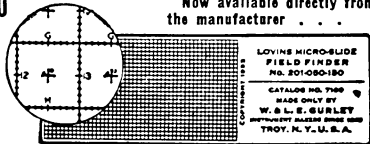


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ARCHITECTURE

Buildings Packaged in Glass Envelope

➤ AN IDEA which "could revolutionize our whole notion of exterior architecture and internal air conditioning and illumination" is being studied at Pennsylvania State University.

The idea is to enclose whole buildings in a glass package. This is called the "air wall construction" by William Hajjar, professor of architecture who also is a practicing architect.

The glass enveloped would be spaced from the building's actual facing at any desirable distance. A blanket of air would be circulated round-and-round or up-and-down the building in the space between the wall and glass.

The glass envelope would, first, protect the building, eliminating problems of weatherproofing, and, second, the circulating air would become a built-in climate controller.

Thus the circulating blanket would move sun-warmed air to the cool sides of the building, and vice versa. In winter, heat could be added to this circulating blanket, eliminating duct systems. Mr. Hajjar thinks the idea in practice would help yield comfortable temperature and humidity conditions everywhere in the building.

Furthermore, the scheme offers dramatic possibilities in lighting. At a flick of the switch the air space could be illuminated to provide "daylight" inside at night.

From the angle of architectural design, the air-wall construction is said to offer "every possibility from the virtually inconspicuous to the spectacular." Maintenance would amount to mere washing.

Mr. Hajjar is now probing the engineering aspects with help of architectural engineer Melvin Isenberg, also of Pennsylvania State University. The work is being sponsored by Pittsburgh Plate Glass Company.

Science News Letter, March 21, 1959

ENGINEERING

New Generator Uses "Idle" Atomic Wastes

➤ A NEW generator is expected to "open the door" to unlimited practical usage of waste atomic products now lying idle in safe storage.

The five-pound thermoelectric generator, fueled with the radioisotope polonium-210, was developed in four months for the Atomic Energy Commission by The Martin Company of Baltimore, Md., in conjunction with the Minnesota Mining and Manufacturing Company of St. Paul, Minn.

Known as SNAP III, which stands for System for Nuclear Auxiliary Power, the unit's vital statistics are these: nearly five inches in diameter, five and one-half inches tall, five watts initial output of power. In the course of 280 days, two half-lives of the polonium source, SNAP III could produce an estimated quantity of electricity equal to 1,450 pounds "of the best conventional batteries available," according to White House sources.

Its first applications are expected to be in the United States satellites, to power radios and instruments. But improvements might suit it to air and sea navigation aids, or perhaps even telephone and telegraph lines.

The AEC said the first generator cost \$15,000, but this cost would drop to \$200 on a production basis, exclusive of fuel. Polonium-210 is expensive, but the AEC officials said a much less costly atomic waste product could be used instead.

At its full charge of 3,000 curies, the unit produced five watts of power at eight percent to ten percent efficiency. But after polonium passed its half-life of 140 days, the power dropped to three watts.

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