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CHEMISTRY

Seen at Chemical Fair

► A NEW PROCESS for removing water from foods by freezing was among hundreds of chemical innovations on display at the 29th Exposition of Chemical Industries, New York.

The concentration of foods, chemicals and similar liquids by freezing the water out instead of evaporating it was exhibited by Struthers Scientific and International Corp., New York. The process is based on the ability to grow uniform ice crystals that are then discarded to produce a concentrated food product.

The same technique has been applied in Struthers method of desalinating seawater, in which ice crystals are formed and melted to produce freshwater. This process is now being used experimentally to produce 15,000 gallons of freshwater daily at a plant at Wrightsville Beach, N. C. A 200,000-gallon-per-day plant now under construction at the same place for the Department of the Interior will also use the process.

The Struthers exhibit also showed a high-pressure autoclave system for curing concrete blocks, asbestos, foods, chemicals and other products in hours instead of days. Hot oil circulated through water-covered

coils at the bottom of the pressure chamber is used to generate the steam that cures the products.

On display for the first time in this country is a high-vacuum rectification column, in which liquid is fed into vertical coil springs instead of the familiarly packed column. More than a dozen units of this efficient new design, manufactured by Chem-Pro Equipment Corp., Hackensack, N. J., are being used commercially in Europe.

Among the analytical instruments being shown is a gel permeation chromatograph, developed by Waters Associates, Inc., Framingham, Mass. This chromatograph can rapidly analyze the molecular weight and molecular weight distribution of such polymers and chemicals as polyethylene, rubber and latex.

Another chromatograph registers only the high points of gas or liquid process streams on the recorder instead of the successive analyses in the conventional chromatogram curve. This "peak-picker" is produced by Foxboro Company, Foxboro, Mass.

Storage tanks made of glass fiber and stainless steel that can be field-erected in close quarters were on display by Metal-Cladding, Inc., North Tonawanda, N. Y. Astrosonics, Inc., Syosset, N. Y., is showing a new spray dryer and chiller that produces uniform, spherical particles in sizes varying from 100 to 1,000 microns. This system uses a unique vibrating bar method of atomization.

Other highlights included an automatic distilling unit that produces, stores and dispenses distilled water as needed; an automatic machine for weighing and recording the statistics of laboratory animals; an instrument that uses a beam of light to "sight" bacteria in suspension and a heat conductive plastic that never solidifies.

Also, a water analyzer capable of detecting very low turbidities in water; an instrument that separates two or more chemicals by ion exchange, ion exclusion or ion retardation, and a structural material of Butyl rubber combined with Dacron used as an alternate for steel in cones for hoppers, bins and cyclones handling dry materials.

• Science News Letter, 84:382, Dec. 14, 1963

TEXTILES

**New Chemical Mixture
Fireproofs Fabrics**

► A CHEMICAL MIXTURE that fireproofs cotton, wool, rayon and silk fabrics and at the same time makes them resistant to mildew, shrinkage, rot and wrinkles has been developed by the U.S. Department of Agriculture's Southern Regional Research Laboratory in New Orleans.

The mixture, called APO-THPC, will be used by hospitals to fireproof bedding, draperies and clothing.

• Science News Letter, 84:382, Dec. 14, 1963

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