

CHEMISTRY-AAAS

Plastic Coats for Eggs

New chemical discoveries also include sulfa drug for animals, flame-resistant paints, fortified margarine with a longer-lasting vitamin A content.

► WITH a jingle of chemical formulae, Santa in the guise of chemists is still around, delivering the following new scientific things to the world:

Plastic coats for eggs that will keep them fresh outside a refrigerator for a year.

A new sulfa drug for animals that ought to save a couple of hundred millions of dollars annually down on the farm.

Flame-resistant paints for inside walls that don't need inflammable solvents to carry the new mode synthetic protecting film.

Fortified margarine with a longer-lasting vitamin A content.

A better phosphorus-containing substitute for nicotine (for killing insects, not smoking) that slays bugs that defy DDT.

A new complex liquid, christened DABP, that among other things can bind cloth of glass into a strong, semi-transparent "sandwich."

And a way of using the "drip" from frozen foods, the goeey stuff that comes out of the frozen edibles, to tell just how it is getting along in storage—"almost as important as the information obtained from an examination of human blood" says the scientist.

These new chemical developments were announced to the joint meeting of the American Association for the Advancement of Science and the American Chemical Society.

Dr. Gustav Egloff of the Universal Oil Products Co. told of the plastic film for eggs and the sulfamethazine that promises to control mastitis in cows, shipping fever in horses and some chicken diseases.

L. E. Ludwig of Montgomery Ward Paint Works told of the new paint made of vinyl polymers in water dispersions. A. I. Coombes of Wilson & Co., Chicago, told of the cheaper and long-lasting method of enriching margarine. Prof. L. F. Audrieth and Dr. O. F. Hill of the University of Illinois made atomic geometry studies to pep up the German-born insecticide, HEPT, or hexaethyl tetraphosphate to chemists.

Arthur D. F. Toy, Lee V. Brown of

Victor Chemical Works, Chicago, discovered the plastic, diallyl benzenephosphonate. Prof. Socrates Kaloyereas of Louisiana State University studied the drip.

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AERONAUTICS-AAAS

Airplane Engines Designed By Novel Mothball Method

► A NOVEL mothball method helps scientists design lighter and more efficient airplane engines, the American Chemical Society, meeting in Chicago, was told by Prof. Charles C. Winding and A. J. Cheney, Jr., of Cornell University. The mothball material is used in radiator construction to test heat effects.

The new and simple technique for

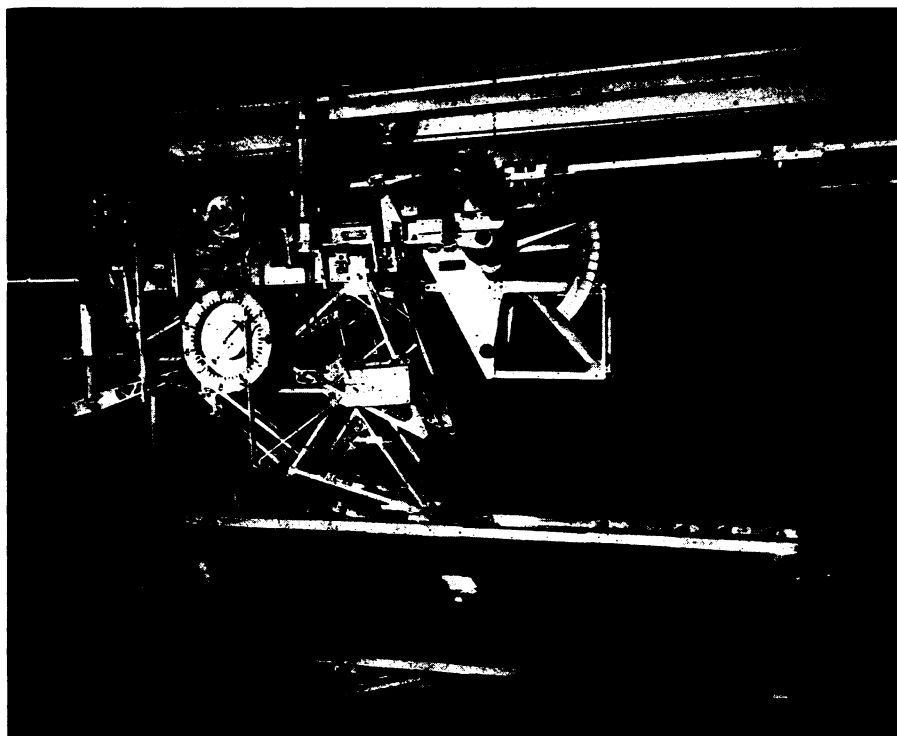
testing designs utilizes models of radiators cast in naphthalene, the white substance of which mothballs are made, they said. Air blown over this chemical causes it to evaporate. By noting the rate of evaporation at different points on the model, engineers can estimate accurately the cooling efficiency of the design.

The conventional method is to cast the radiator in metal and measure its cooling in actual operation. This is a costly and lengthy procedure. The novel mothball method requires the fabrication of simple plaster of Paris molds in place of metal parts. The necessary evaporation measurements are made with one small instrument called a micrometer instead of the elaborate equipment needed to measure heat absorption in metal parts.

This new technique may find many applications in the design of other industrial equipment. Air-cooling plays an important part in air-conditioning and refrigeration, for example. The new method is suitable for design use in these industries.

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Sponges were among the earliest forms of life on earth.



HYDROFOILS—Wing-like projections under a speed boat permit greater speeds because they lift the hull completely out of water. The lift-drag ratio of the foils is higher than that of a conventional semi-planing hull. The picture shows two hydrofoils under a boat and overhead propeller mechanism used in the towing tank at Stevens Institute of Technology.