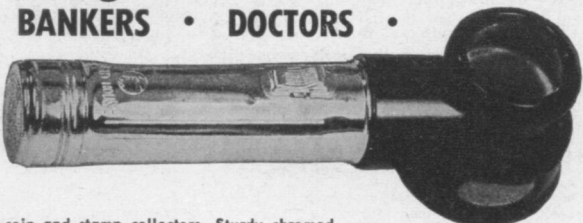


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METEOROLOGY

Weather Balloons Reach 235,000-Foot Heights

FOUR-OUNCE weather balloons, 235,000 feet above the earth, now look down on standard balloons that reach maximum altitudes of about 100,000 feet.

Twenty-five such balloons, deflated, are being rocket-fired to the upper atmosphere as a part of Project Robin (an abbreviation for Rocket Balloon Instrument). The solid fuel rocket is an ARCAS, All-purpose Rocket for Collecting Atmospheric Soundings.

At peak altitude an explosive device separates the balloon from the rocket carrier. It is inflated to its three-foot diameter by iso-pentane gas contained in a small one-ounce vial inside the balloon.

Launchings are made by members of Air Force Detachment 11, 4th Weather Group, at the Air Force Missile Test Center, Cocoa Beach, Fla. They are checking the balloons as a method of obtaining high altitude wind and air density information for use in conjunction with ballistic missile launchings. It will supplement data obtained from the lower altitude by standard weather balloons.

The Robin balloon is made of a transparent plastic material called Mylar. Its surface is one-half of a thousandth of an inch thick. Attached inside by small springs are three planes of aluminized Mylar which form a set of eight corner reflectors. These permit continuous radar tracking of the balloon by ground stations. Information gathered by the tracking radars provides wind speeds, and mathematical computations enable weather experts to determine high-altitude air densities. (See p. 399.)

The system was developed jointly by the Air Force Cambridge Research Center and the Office of Naval Research.

Science News Letter, December 12, 1959

PUBLIC HEALTH

Chromite Use Cuts Smog Elements in Exhausts

CHROMITE compounds have been found to cut up to 90% the amount of nitric oxide expelled by automobile exhausts, scientists at the Franklin Institute Laboratories, Philadelphia, report.

Use of zinc-copper chromite, iron chromite, barium-promoted copper chromite and chromium-promoted iron oxide have been found efficient in helping carbon monoxide, already present in the exhaust, to scrub out nitric oxides sent into the air.

Nitrogen oxides, along with unburned hydrocarbons, have been blamed for contributing to smog conditions in auto-packed Los Angeles. When enough oxygen is present, chromites induce oxidation of hydrocarbons and carbon monoxide and without special air pumps.

Laboratory director Dr. Nicol H. Smith said more experiments are needed to determine whether chromites can withstand the poisoning effects from lead in exhaust gases.

Science News Letter, December 12, 1959

