

ket that kills fire in oil, gasoline and other flammable liquids.

Aircraft have been used to fight brush fires over open country for years, but now for the first time helicopters are dropping water and chemical solutions over burning housetops in the Los Angeles area.

County fire department chief Keith E. Klinger, who is reported to be the highest paid fire chief in the world, predicts that fire departments throughout the United States will soon use helicopters to drop walls of fire-smothering agents faster and more effectively than men fighting from the ground are able to pump the materials up.

Today's fire-fighting uniforms can now be coated with a new nitroso rubber that not only protects the wearer but extinguishes the flames by means of a gas that is expelled when the rubber comes in contact with the flames. Fire-fighters' coats, hats and gloves can be coated with this chemical, which remains flexible and usable at 40 degrees below zero Fahrenheit, as well as resistant to solvents and strong chemicals.

As information about fire and methods to control it is discovered and dispersed to the public, small fires are able to be stopped before they grow into roaring infernos. Individual awareness in the home and office can lower the high cost of fire, estimated at \$5 billion in the United States annually.

Modern plants, such as the Chocolate Bayou Plant of Monsanto Chemical Com-

pany in Texas, have installed programs of trained crews, streamlined and up-to-date equipment in the form of pumps, foam trucks, hose trucks, and monitor nozzles that can be directed by a single man at ground level through a system of ratchets, rods and wheels and can be left unattended after aiming.

Fire experts agree that man's oldest problem can often be solved by man's oldest weapon: common sense.

The individual should observe basic rules on fire prevention and control in general and in case of a nuclear attack. These rules can be as simple as keeping your house clear of trash piles, rubbish or stored odds and ends that accumulate around the house, and keeping a supply of water, sand or, better still, a chemical extinguisher handy to use at the first sign of fire.

In an introductory statement in the recent publication "Rural Fire Defense—You Can Survive," issued by the U.S. Department of Agriculture's Forest Service in cooperation with the Department of Defense, Secretary of Defense Robert S. McNamara stresses the value of preparedness in fire defense.

"If our nation should suffer a large-scale nuclear attack," he wrote, "the measure of our ability to survive and recover will be the courage with which we appraise the dangers and the vigor with which we act now to prepare for them."

• Science News Letter, 83:90 February 9, 1963

MEDICINE

Smoking as Cancer Risk

► **SMOKING** multiplies other risks of getting lung cancer, scientists at the Roswell Park Memorial Institute in Buffalo, N. Y., have concluded from experiments.

Inhaled dangerous material increases as the cigarette butt gets shorter. The first puff draws in 2.5 times less tars than the 10th puff.

In the first study, by Drs. Joseph A. DiPaolo and Paul R. Sheehy, two sets of animals were tested—one with urethan, an animal anesthetic known to produce cancer, and the other set with urethan plus a solution of the tars inhaled by a cigarette smoker.

With the tars added, it was as though 52 times the actual dose of urethan had been given to the tested mice, increasing its cancer-causing potency that many times. The urethan was injected and the tars were painted on the throats five times a week for six months.

Although these and other scientists have previously shown that cigarette smoke contains traces of several chemicals, any one of which can cause cancer when applied to the skin of experimental animals, this is the first time it has been proved that the cigarette smoke chemicals multiply the effect of urethan to such an extent.

The American Cancer Society, which partly supported the two investigations, said that if a moral can be drawn from this phase of the study it would be that smoking multiplies the risk of exposure to smog, industrial fumes and other sources of cancer-causing chemicals.

Drs. Saxon Graham and Morton L. Levin,

with Miss Shirley Crouch, reported the second phase of the studies, showing that early puffing on a cigarette is safest.

They said smokers will run a lowered risk of lung cancer if they will limit themselves to about four puffs to a cigarette.

But the safest thing is not to smoke at all, inasmuch as Roswell Park studies have shown that all cigarette smokers, regardless of the amount or method of smoking, run a risk of lung cancer six times higher than that of non-smokers.

• Science News Letter, 83:91 February 9, 1963

ASTRONOMY

Supernova Discovered Low in Northern Sky

► **SUDDENLY** blazing forth with a brightness many million times that of the sun, a supernova, or exploding star, has appeared in Coma Berenices, Berenice's hair, low in the northern sky.

Despite the supernova's intense brilliance, the object is so far away that its magnitude is only 15, too faint to be seen except through large telescopes. It was discovered at the Astrophysical Observatory of Padua University, Asiago, Italy, Prof. L. Rosino, director, reported to Harvard College Observatory, Cambridge, Mass.

• Science News Letter, 83:91 February 9, 1963

Psoriasis, a chronic recurring disease of the skin that has been known from Biblical times, is still not curable, although in many cases it can be controlled.

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