

TECHNOLOGY

Develop Rubber "Cans" For Shipping Chemicals

➤ REUSABLE, COLLAPSIBLE synthetic-rubber "cans" have been developed for industrial shipment of foods, chemicals and corrosives. They are said to cut handling and packaging costs and permit low-cost bulk shipments.

Made by the U. S. Rubber Company, the "cans" now are carrying carbon black, starch, clay, flour, sugar, malt, granular reclaim rubber, corrosive chemicals and plastics.

The large, 2,500-gallon container measures eight feet in diameter. Inflated it stands eight feet high, but it collapses to two feet for return and refill.

The small, 500-gallon container is three feet, ten inches in diameter and seven feet high. It collapses into a package about six feet long, three feet wide and ten inches high.

Fabricated like tires, the containers have a number of plies of high-strength cord molded into the neoprene rubber walls. They are reinforced by internal lifting cables attached to a lifting ring on top.

Science News Letter, August 7, 1954

INVENTION

Convertible Helicopter Wins Patent for Piasecki

➤ THE U. S. Patent Office has given protection to two notable inventions in the field of aeronautics.

One is a Piasecki helicopter with a saucer-like rotary wing. The other is a Danish transport plane with a detachable cabin that can parachute to earth should the plane run into trouble.

Edward G. Vanderlip of Radnor, Pa., is the inventor of the "disk rotor" helicopter. This machine is capable of rising vertically and hovering like ordinary helicopters, but it has been designed to fly forward at speeds faster than ordinary helicopters can reach.

Usual types of helicopter rotor blades extend from the hollow circular wings, which resemble two saucers, one inverted upon the other. The rotor blades lift the helicopter from the ground.

In flight the rotor blades can be retracted into the spinning saucer-like wing to permit fast forward speeds. The saucer wing is an airfoil that will support the helicopter in horizontal flight despite its unconventional design.

The helicopter would have a piston-driven propeller to pull the plane forward or would use a jet engine to generate a forward thrust. Mr. Vanderlip assigned patent No. 2,684,212 to Piasecki Helicopter Corporation.

Martin Olgaard Thunbo of Copenhagen has patented his method of protecting transport passengers in case of a catastrophe. He provides a cabin for passengers that has a huge parachute packed on top of it. Small "pilot" chutes are attached to the big one.

The whole works is encased by the plane's skin.

In an emergency, the pilot would enter the passenger's cabin, close the water-tight door leading to the cockpit, pull an emergency lever and try to reassure passengers.

The skin covering the cabin would billow open and would begin sliding the cabin away from the rest of the plane. Other small chutes would open one by one, then the big chute would blossom. The cabin at this point would be completely free of the ill-fated plane and would come gently to earth, Mr. Thunbo believes. The cabin would float should it land in water. Patent No. 2,684,219 was not assigned to any manufacturer.

Science News Letter, August 7, 1954

TECHNOLOGY

Studebaker Introduces Ambulance-Police Car

➤ A MODIFIED station wagon for use as a combination ambulance, patrol car and emergency vehicle has been developed for small communities and factories that have no need for three separate vehicles.

During emergency runs, a siren can be operated through the automobile's horn ring. Half of the rear seat folds down to make room for an ambulance cot. Left up, the other half of the seat permits an attendant to sit at the head of the cot.

All emergency equipment, including siren and revolving beacon, may be quickly removed when the vehicle is used to carry personnel. It was developed by engineers of the Studebaker Company, South Bend, Ind.

Science News Letter, August 7, 1954

OCEANOGRAPHY

Sea Creatures Seek Level of Deep Shade

➤ THE TINY sea creatures that make up the ocean's deep-scattering layer spend daylight hours at a level where the sun gives no more light than would a 100-watt light half a mile away.

Scientists have, for the first time, found a direct relation between a fixed amount of light and the depth of the deep-scattering layer. This layer was discovered during World War II when "false bottoms" appeared on depth tracings made by sound waves reflected from the ocean floor.

Drs. Brian P. and Elizabeth K. Boden of the University of California's Scripps Institution of Oceanography have proved that the light intensity within the deep-scattering layer is only three ten-thousandths of a foot-candle.

A 100-watt light emits 16 foot-candles at a distance of 10 feet. They used a photometer, a sensitive light-measuring instrument, to pinpoint the depth of the deep-scattering layer.

Science News Letter, August 7, 1954

IN SCIEN

PLANT PATHOLOGY

Smogged Plants Glow Blue in Ultraviolet

➤ PLANTS ATTACKED by smog will glow with a bright pale blue fluorescence when seen under ultraviolet light.

This discovery, if confirmed, will give "the first objective means" of telling how much damage smog has caused on vegetation as well as ornamental plants.

The finding and its potential value are announced by Drs. J. P. Nielsen and H. M. Benedict of Stanford Research Institute and Dr. A. J. Holloman, now with the Columbia-Geneva Steel Division of U. S. Steel Corporation at Provo, Utah, in *Science* (July 30).

Smog damage to leafy crops in the Los Angeles area is reported to be more than half a million dollars a year. The area of damage is expanding. Leaf markings pointing to smog damage have now also been found in the San Francisco Bay area.

In addition to the commonly recognized smog markings on plant leaves, there may be other marks commonly seen that cannot be readily told from the smog markings. These other markings may come from insects, under- and over-fertilization, floods and similar non-smog causes.

After a smog attack in Menlo Park, Calif., in 1953, it was discovered that the so-called typical smog markings on leaves of some plants fluoresced pale blue when irradiated with near ultraviolet light from a mercury vapor lamp.

Following this discovery, the Stanford Research Institute scientists made tests of plant leaves exposed to actual smog, to atmospheres made to resemble smog and to a variety of cultural conditions.

Science News Letter, August 7, 1954

ASTRONOMY

Faint Periodic Comet Arrives on Schedule

➤ A PERIODIC comet that has been sighted every six and a half years since its discovery in 1928 has been spotted close to its predicted position by two Lick Observatory astronomers, Harvard College Observatory has reported.

Known as Comet Schwassmann-Wachmann (2), the diffuse object is only of 17th magnitude, too faint to be seen without a large telescope. It was spotted in the constellation of Taurus, the bull, which is low in the northeast after midnight.

The comet was rediscovered on July 28 jointly by Drs. Hamilton Jeffers and Elizabeth Roemer of Lick Observatory, Mt. Hamilton, Calif.

Science News Letter, August 7, 1954

CE FIELDS

NUTRITION

Capsules, Gum Drops In Protein Test Diet

➤ SIX COEDS have lived on a daily diet that consisted of gum drops, a muffin, butterscotch pudding, soda pop, and capsules of vitamins, minerals and amino acids.

This kind of Spartan eating for six weeks helped scientists learn more about the body's protein requirements at the University of California at Los Angeles.

Such a diet will not aid housewives trying to stretch the family budget, however. Because of the rare amino acids in the capsules, each girl's food per day cost about \$50.

Dr. Marian E. Swendseid of the department of home economics directed the experiment, planned to find out which of the approximately 20 amino acids in food are necessary to a healthy diet. Amino acids are the basic constituents of protein. The research was financed by grant from the U. S. Department of Agriculture.

Science News Letter, August 7, 1954

ANIMAL NUTRITION

Good Food For Family Dog

➤ IF YOU are buying canned food for your pet dog, look for a keystone-shaped design on the can label that carries the words: "Inspected and certified by U. S. Department of Agriculture as a normal maintenance dog food."

Dr. D. W. Glascock, in charge of inspection of animal foods, explains that the symbol means that Federal inspectors have checked both quality and ingredients of the food, and that all information on the label is accurate. It means that food is of such high quality that a partly used can may be kept in the refrigerator along with the family's foods, and also that the mixture is a balanced ration, meeting a dog's minimum needs or better for protein, vitamins, minerals and other nutrients.

As a further check, the food is tried out on dogs in a three months' feeding test to see if they maintain health and weight on it. If dogs do not fare well, manufacturers are helped to improve their formula. This protects against food that may fill but does not fully nourish.

The many canned dog foods on sale vary considerably in nutritive value, and price is not always a sure guide to the best product. Feeding tests at the U. S. Department of Agriculture have shown that a dog may need twice as much of one canned mixture as another to hold his weight.

Labels on inspected dog food state that

the food is for dogs, list all ingredients, give the correct net weight of the can, and the name and address of the manufacturer. Besides certifying the food and label, inspectors examine the filling and processing of cans and sanitation of canning plants and equipment.

All this service costs the taxpayer nothing. Manufacturers who ask for it pay for it. Dogs and owners benefit as do those manufacturers who know it is good business to put out good food for "man's best friend."

Science News Letter, August 7, 1954

DENTISTRY

Fluorides and Ammonia Rated Against Caries

➤ FLUORIDE PUT into the drinking water of the Canadian city of Brantford, Ont., for the past nine years has cut tooth decay more than half in permanent teeth of boys and girls from five to 15 years old, Dr. William L. Hutton, director of the Brant County Health Unit, Dr. Bradley W. Linscott, school dental officer, and Donald B. Williams, chemist of the Brantford water works, report in the *Journal of the American Dental Association* (Aug.).

Brushing teeth with an ammoniated dentifrice twice a day reduced new decay spots by 25.2%, Drs. Abram Cohen and Albert Donzanti of Philadelphia's School District report in the same issue.

Their report was based on a two-year study of 169 grade school children who did the tooth brushing at school under supervision.

X-ray studies showing that fluoridated water did not damage the bone structure of children who drank it are also reported in the same issue by Dr. F. J. McClure of the National Institute of Dental Research and Dr. H. Berton McCauley, formerly with the institute and now with the Baltimore City Health Department.

Science News Letter, August 7, 1954

ICHTHYOLOGY

Eavesdropping on Fish Proves They Are Noisy

➤ EELS MAKE "putt putt" sounds, striped bass go "thump," and seahorses click.

The concept of the undersea world as a noisy place has received added support from studies conducted by Mrs. Marie Poland Fish, research biological oceanographer of the University of Rhode Island's Narragansett Marine Laboratory, who used a hydrophone and a sound recorder to eavesdrop on 60 North Atlantic coastal fishes. Only six uttered no sounds.

Mrs. Fish found that fish, like humans, use sounds to "talk" to one another, express fright, comment on changes in their surroundings, or just make noise.

Air bladders or friction of one part of the body against another were the noise makers for 27 kinds of fish examined.

Science News Letter, August 7, 1954

MEDICINE

Keep Problem Drinker On Job Three Months

➤ KEEP THE problem drinker in your plant on the job while your medical people are trying to help him. But if after three months the medical division or plant doctor reports the drinker shows no interest in rehabilitation, he should be discharged.

This advice comes from Dr. Thomas H. Hogshead of E. I. du Pont de Nemours and Co., Wilmington, Del.

Following this policy has resulted in rehabilitation of an estimated 65% of the cases at an estimated cost of less than \$100,000, he reports in the *American Medical Association's Archives of Industrial Hygiene and Occupational Medicine* (June).

Allowing the employee to keep working while he tries to stop drinking is like the successful treatment of World War II casualties at the front instead of at rear bases, Dr. Hogshead explains. It gives the worker, like the soldier, "the feeling of courage and pride that one gets by staying in the fight and not retreating."

Science News Letter, August 7, 1954

MEDICINE

Streptomycin Cures Repeated TB Meningitis

➤ EVEN REPEATED attacks of tuberculosis meningitis can now be cured by streptomycin. And women afflicted by this serious illness need not be denied the pleasure of becoming mothers.

This view of a once hopeless situation comes from a case reported by Drs. Archibald L. Hoyne and Allen Schultz of Chicago and Dr. Jerome H. Diamond of South San Francisco, Calif., in the *Journal of the American Medical Association* (July 31).

Their patient was 15 when first admitted to Cook County Hospital, Chicago, suffering with tuberculosis meningitis. TB germs had attacked the membranes covering her brain and spinal cord. In this kind of meningitis, an apparently recovered patient is sometimes left subnormal mentally or with paralysis.

The 15-year-old Chicago girl recovered from her first attack, only to have two more within the year. Treatment with streptomycin restored her to health each time.

Since the last attack, in September, 1948, she has remained well and become the mother of three "robust, healthy children."

Her case is considered one of the most prolonged instances of treatment with complete recovery from the disease since streptomycin was first used for tuberculosis. Although such long time treatment with streptomycin carries danger of nerve damage resulting in partial or complete loss of hearing, the Chicago young woman has no trouble in hearing. Audiogram records show only a moderate loss in the high range above the range of the normal voice.

Science News Letter, August 7, 1954