

TECHNOLOGY

Government Plans to Open Dehydrated Food School

➤ TO INSURE production of the highest quality of dehydrated foods for the armed forces of the United Nations, the U. S. Department of Agriculture announces the opening within the next few weeks of the first school to train commercial manufacturers in improved methods of processing developed in government research laboratories. The school is located at Albany, Calif.

Because of the urgent need to conserve shipping space and to prepare foods in a form which will keep indefinitely in any climate, the training program will be expanded sometime this fall to include a school at Rochester, N. Y.

The training program is being jointly conducted by the Agricultural Research Administration and the Agricultural Marketing Administration, which is the lend-lease purchasing agency.

Subjects included in the courses will be selection of vegetable varieties, storage problems, processing, packaging, and laboratory control, to provide maximum quality for this fuel for the fighting men of the United Nations.

Recent improvements in dehydration processes make possible the shipment of dry vegetables, milk, meat, and other foodstuffs, in only a fraction of the space formerly required. Yet when mixed with water at the battle front, they are reconstituted with nearly all the nutrient value and fresh flavor still intact.

Science News Letter, September 5, 1942

ASTRONOMY

Eclipse Revealed Weather Differences Over World

➤ THE ECLIPSE of the moon on the night of August 25-26 showed that the weather that night was good in the Pacific, at Midway and the Solomons, and bad in Berlin and Russia.

This gives no aid or comfort to our enemies but rather the contrary.

The coppery light which illuminates the moon during a total eclipse, which on this occasion inspired some to say there was blood on the moon, is sunlight which is refracted or bent around the edges of the earth by its atmosphere. Sometimes the earth's shadow is darker and redder than at other times. That means that the skies through which the

light passes are overcast or cloudy.

Those who attentively observed the recent eclipse may have noted that during totality the western edge was brighter than the eastern edge until well past the middle of the eclipse.

The brighter light which at midnight EWT illuminated the western edge of the moon, passed through the earth's atmosphere along the mid-Pacific, where the sun was just setting, and indicated clear weather in that region.

The darker light of the eastern edge grazed the earth along eastern Germany and Western Russia and indicated cloudy weather in that region or worse.

Science News Letter, September 5, 1942

INVENTION

New Sight for Firearms Frames Target in Beads

➤ A NOVEL SIGHT for firearms is the subject of patent 2,291,962, granted to John Helfenstein of Bismarck, N. D. Instead of having the conventional vertical front sight that partly covers the target when properly aimed, Mr. Helfenstein has two horizontal beads or points, between which the target is "caught." The rear sight consists of a similar pair of projections, so that when the front sights are completely masked by the rear, and the marksman sees just one pair of points "framing" his target, he has his weapon properly sighted.

Science News Letter, September 5, 1942

RESOURCES

Castor Oil May Be Used To Ease Rubber Shortage

➤ CASTOR OIL, popular remedy for the colic, popular with the mothers not with the babies, may also soothe the pangs of the rubber shortage.

One part castor oil to one part ethyl cellulose is the composition of the new plastic recently announced by the Hercules Powder Company to replace rubber in many of its uses.

The new material has not the bounce of natural rubber, but there are many things for which rubber has been used which do not need bounce, such as washers, gaskets, gloves, galoshes, garden hose, etc. Sixty thousand pounds of rubber have been used in these ways annually, it is estimated, simply because it was cheap and plentiful. For all of them the new plastic is just as good, and in some ways better, they say.

Science News Letter, September 5, 1942

IN SCIENCE

INVENTION

Measure Gravity on Lake Bottom in Search for Oil

➤ MEANS FOR making measurements of the force of gravity at the bottom of shallow seas and lakes are described in U. S. patent 2,294,201 awarded to Theodore B. Pepper of Oakmont, Pa., and assigned to Gulf Research & Development Company of Pittsburgh.

Such measurements are made in geophysical prospecting for oil. Since the oil occurs anywhere from a few hundred feet to two miles down, it may very well occur under shallow bodies of water. Measurements cannot be made from a boat because the instrument requires a solid footing and must be leveled with extreme accuracy.

A novel feature of the present device is the provision of a wide flaring skirt at the base of the instrument. Air is pumped from the space between the skirt and the bottom, causing the instrument to be held securely to the bottom. The patent also describes the intricate means by which the leveling and all other adjustments are made by remote control from the boat, and the actual gravity measurements are read from instruments in the boat.

Science News Letter, September 5, 1942

INVENTION

Lamp Gives Both Plain And Ultraviolet Light

➤ A LAMP combination giving both "plain" visible and ultraviolet light is covered by patent 2,291,926, issued to George Sperti of Covington, Ky., and assigned to Science Laboratories, Inc., of Norwood, Ohio. One or more incandescent bulbs provide the visible light, and a tube-like lamp containing mercury vapor gives out the ultraviolet. The glass of the latter lamp is of a type that acts as a filter, to stop the shorter wavelengths that would be harmful on long exposure. The combination is stated to be especially desirable for schools, playrooms and other places where children congregate.

Science News Letter, September 5, 1942

E FIELDS

ARCHITECTURE

Expert Describes Ideal War Factory and Devices

► AN EGG-SHAPED windowless structure of reinforced concrete gives the greatest strength with the least material and saves 60% of the steel ordinarily used, said George H. A. Parkman, Westinghouse construction expert, in presenting his ideas for the ideal war factory.

Such construction would be bomb-resistant and fireproof, he added.

Artificial daylight with the now popular fluorescent lamps and complete air-conditioning, regulating both temperature and humidity to a nicety, would of course be used. A dust precipitator would clean the entering air, and sterilizing lamps would kill its disease germs with their invisible ultraviolet rays.

Continuous, 24 hour a day, power supply would be assured by an intricate network of feed wires and by scattering transformers and protective devices about the plant, so that if one part is destroyed by bomb or sabotage, the rest will continue to function.

Many of these measures have been employed in factories built last year, Mr. Parkman stated, but so far as he knew, none had adopted all of them.

Science News Letter, September 5, 1942

ORNITHOLOGY

Lone Young Marsh Hawk Defies All Intruders

See Front Cover

► HAWKS are fierce, even before they have all their feathers. The young marsh hawk pictured on the front cover was found in a nest in an open field on an Indiana farm, and photographed by Rev. John W. Baechle, C.P.P.S., professor of biology at St. John's College. There were seven fledglings in the nest when Father Baechle and his friends approached, but six of them scattered, leaving one bold youngster to hold the fort alone. Then the parents appeared, and "we left hurriedly, for we didn't care to tangle with the adults whose young were so scrappy."

Last year, Father Baechle had an uninvited marsh hawk visitor in one of the college classrooms. The bird crashed through a double-strength glass window, with only a slight scratch on its leg to show for its misadventure. It was somewhat dazed, however, so that it was possible to attach an identifying band to its leg before it was released. A month later it was shot by a farmer, about ten miles from the college.

Science News Letter, September 5, 1942

DENTISTRY

Program Is Planned For Attack on Tooth Decay

► BANISHING toothaches by a national caries (tooth decay) control program similar to the cancer and tuberculosis control programs is urged by Dr. Oren A. Oliver, president of the American Dental Association.

Dr. Oren's plan for banishing toothaches calls for: 1. A conference of research workers to determine the extent to which tooth decay can be controlled by use of present knowledge; 2. Presentation of a program at conference of all those "who would have the responsibility of aiding" in the program.

Science News Letter, September 5, 1942

INVENTION

New Type Cargo Plane Speeds Transportation

► A CARGO PLANE composed of two parts which can be separated, one carrying the engine and wings, the other the cargo, so that the engine part can immediately fly another cargo without waiting for loading or unloading, is the method of speeding up air transport devised by Benjamin C. Scheufele of Philadelphia, for which he has been granted U. S. patent 2,294,003.

The after part of the fuselage carrying the cargo, telescopes into the forward part, the telescoping portions being rather long to secure stiffness. It has its own retractable wheels and the tail assembly folds up, so that it can be towed by automobile or otherwise along the streets precisely to its destination.

By keeping the motive part constantly busy, as the inventor advises, the number of engines and wings required for air transport of freight is reduced. This saves both labor and raw materials needed in the war effort.

Science News Letter, September 5, 1942

GENERAL SCIENCE

Petrified Replica of Arc Formed by Current

► LIGHTNING struck a power line at Wooster, O. and the broken wire carrying 22,000 volts fell to the ground. Along 45 feet of the wire as it lay on the ground the brilliant bluish white flames of the electric arc played continually, flaring up more brightly with every lightning flash which produced powerful electric surges in the wire in addition to its own current.

After the storm, long masses of glassy solidified molten sand and rock were found along the ground where the wire had lain. They were shaped like a tree's trunk with short side branches. Where the arc was fiercest the trunk was four inches in diameter and the branches more than an inch in diameter.

This unusual phenomenon was reported by Karl Ver Steeg of the College of Wooster (*Science*, Aug. 21).

Lightning when it strikes in desert sand or on a beach often leaves a fused and petrified replica of itself. These fulgurites as they are called are sometimes several feet in length, but seldom more than two inches in diameter. The one produced by the broken wire and the storm is therefore a record breaker, probably due to the fact that the arcing continued for nearly three hours, while a stroke of lightning lasts but a small fraction of a second.

Fulgurites, a few inches long, have also been produced in the laboratory by causing artificial lightning to strike into a bucket of sand.

Science News Letter, September 5, 1942

SEISMOLOGY

Quake Hits Near Aleutians; Probably No Damage Done

► AS THOUGH the earth itself were attempting to shake itself loose from Jap invasion, an earthquake shook the Pacific area southwest of the Aleutians and east of the Kamchatka peninsula on August 23 at 2:35.1 a.m. EWT. The shock was recorded on American seismographs and earthquake messages to Science Service, made available to the U. S. Coast and Geodetic Survey, allowed the determination of its location as nearly 450 miles in a southwesterly direction from Attu Island at the Western end of the Aleutian chain. Unfortunately the quake was centered at sea and probably no damage was done.

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