

RADIO

New Life-Boat Radio Has Sending Range of 75 Miles

LAATEST answer of science to the government's requirements of better safety at sea was demonstrated recently in the form of a small radio transmitter for life-boats which has a range of communication of at least 75 miles.

After January 1 all ocean-going passenger ships of 2,500 gross tons or more will be required to have their motor life-boats equipped with radio-telegraph apparatus capable of communicating at least 50 miles.

In trials from the life-boats of the S. S. Pennsylvania, communication was established from the boat, in New York Harbor, with the life-saving station at Tuckerton, N. J., 75 miles down the coast. Estimates place the range at 150 miles over open water.

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MEDICINE

Don't Let Diabetic Child Go Hungry, Doctor Warns

AWARNING against under-feeding children who suffer from diabetes was sounded before the American Dietetic Association.

Dr. Henry John of Cleveland, Ohio, declared that it is no use for physicians to prescribe a low diet, insufficient to satisfy the diabetic child's hunger. So keen is the child's misery that either his mother will feed him snacks to be rid of his continuous complaining, or else the child will desperately steal food. The proper diet prescribed should be ample to satisfy hunger, the diabetes specialist emphasized.

Dr. John drew a bright picture of the diabetic child's fate today, in contrast to the grim course of the disease in days before insulin was discovered. Before insulin, the diabetic child starved to death, crying for the food that could not be increased for fear of hastening the end.

Insulin, which has given diabetic children not merely existence but active and happy life, was pronounced by Dr. John "one of the most triumphant and thrilling stories in all the history of medicine."

No longer a living skeleton, the diabetic child today is likely to be indistinguishable from non-diabetic youngsters. In fact, those who receive properly regulated diet, with suitable injections of insulin to supply the deficit that the body fails to manufacture, often appear better nourished than their normal playmates.

Admitting that taking insulin injections several times a day is no fun, Dr. John stressed the fact that diabetic children gain valuable lessons by the self-discipline and persistence they have to practice.

He said: "Having diabetes has made them better persons, I think." Children with diabetes are generally bright.

"Some of the children I have cared for have gone through college with honors and are now filling important positions," the specialist stated.

In feeding diabetic patients, Dr. John warned the dietitians against indiscriminately giving doses of insulin half an hour before meals. If the patient's blood sugar chances to be high, no harm is done. But if it is low, the lapse of time may result in an insulin reaction setting in. The child is then reduced to a dazed state of extreme artificial hunger. He gulps his food wolfishly, getting no pleasure, and digestive processes may be disturbed.

"Standing orders of this type which are to be found in many hospitals are thus not only most unscientific," said Dr. John, "but are actually barbarous at times."

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ANIMAL NUTRITION

Poultrymen Learn How To Color Eggs—Inside

POULTRYMEN are now being told how to color eggs. No—not for Easter, not this far ahead. The idea is to color the egg inside the shell, making the yolk pale yellow or deep orange, to suit the egg-buying customers.

Deep-colored egg yolks are liked by housewives for cake making, to give the cake a golden color. They are also in demand for some ice creams, the U. S. Department of Agriculture has noted. Poultrymen can get hens to produce pale or deep-colored yolks by the simple device of feeding them accordingly, the Department points out.

Small amounts of pimento or chili pepper in regular rations will give the yolk a deep orange-red color. Feeding white corn, instead of yellow, and limiting the green feed will make the yolks pale. But hens on this latter ration will need codliver oil to supply the vitamin A they miss by not getting yellow corn.

Richer shades of yellow may be obtained by increasing yellow corn and green feed in the ration. But, again, egg color artists are warned to be careful. Too much green feed will give the yolks a brown or green off-tint.

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IN SCIENCE

MEDICINE

Vision Vaccines by Pills Instead of Needle Prick

VACCINATION against disease by swallowing a pill or capsule instead of by the hypodermic needle is the picture of the future presented by Dr. Lloyd Arnold of the University of Illinois College of Medicine at a joint meeting of the Indiana-Michigan-Ohio Societies of Bacteriologists.

By "playing a trick on the stomach" scientists have found a way to make vaccination by mouth a success, Dr. Arnold explained. The trick consists in taking a bile pill thirty minutes before the vaccine pill is swallowed. The bile pill tricks the stomach so that it does not produce digestive acids that would destroy the vaccine. The vaccine is slowly absorbed from the pill by the lower part of the digestive tract without causing any inflammation, thus eliminating the swelling, redness, soreness, headache, backache and slight fever which may occur when the vaccine is injected under the skin of the arm.

Dr. Arnold said that considerable evidence has been accumulated to show that resistance to diseases such as typhoid fever, infectious diarrhea, bacillary dysentery and recently the common cold can be conferred by giving a vaccine by mouth. He pointed out, however, that there is considerable uncertainty as to the mechanism of immunity or resistance.

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TEXTILES

Billy-Goat Whiskers No Longer Wasted

THE CHIN whisker crop raised by thousands of Angora billy-goats has at last found a commercial use. Upholstery makers in Bristol, R. I., have discovered that goat whiskers make very good rugs and carpets.

The whiskers are pronounced strong and durable and capable of taking dyes well, so thousands are being used in rug making.

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E FIELDS

MARINE ZOOLOGY

Lowly Sea Worm Helped Columbus Find America

IT WAS a lighted sea worm, not a flickering torch in the hand of a native, that Columbus saw from his flagship the anxious night before he discovered America.

With this biological explanation, one of the mysterious features of the discovery voyage is believed cleared up at last.

The light, which Columbus described as "like a small wax candle which rose and fell," was probably the luminous display of sea worms known as syllids, L. R. Crawshaw of the Marine Biological Association Laboratory at Plymouth has reported. (*Nature*, Oct. 5) October is one of the months in which the illumination has been noted and it occurs usually around the last quarter of the moon, both points fitting America's discovery date.

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PUBLIC HEALTH

Health Officer Warns Against Heating Hazards

THE artificial heat which makes it so easy for modern man to keep his home warm in winter has its health hazards, Dr. Wilmer H. Schulze, director of the bureau of environmental hygiene of the Baltimore City Health Department, pointed out.

Chief of the hazards is the danger of poisoning from carbon monoxide, odorless, colorless and tasteless gas which can steal unnoticed into the home and strike down its victim before he knows what has happened.

"Keep in mind," warned Dr. Schulze, "that any fuel, whether wood, coal, oil or gas when incompletely burned, produces varying amounts of the poisonous gas carbon monoxide. Remember also that carbon monoxide is an odorless, colorless, and tasteless gas and therefore gives no warning of the danger of its presence.

"In order to avoid contaminating the air in your home with this gas the products of combustion from the heating plant are piped into a chimney and

escape into the outside air. As long as there is no obstruction to the free passage of the gases to the outside, there is little danger of carbon monoxide hazard. Accumulations of soot in chimneys and vent pipes, solid objects which have fallen into the chimney or something that is entirely shutting off the chimney draft may result in carbon monoxide permeating the house because of the incompletely burned coal."

Dr. Schulze advises householders to have their heating plants and chimneys inspected to avoid this danger. The inspections should be made before the cold weather sets in and again periodically during the winter.

Gas heaters in rooms may also be a source of carbon monoxide. They should be connected with rigid metal piping, never by plain rubber tubing or spiral metal tubing. It is safer not to leave a gas appliance operating in a room throughout the whole night. An accident may put out the flame with the result that the occupants of the room are exposed to dangerous amounts of carbon monoxide while asleep.

Dr. Schulze's warning was broadcast over the Columbia Broadcasting System under the auspices of Science Service.

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PHYSICS

Cosmic Rays Charged Equally Positive-Negative

COSMIC rays which continually bombard the earth from outer space must be electrically-charged equally positive and negative—not predominantly positive as believed by Dr. A. H. Compton and other leading authorities on the rays.

This opinion is expressed by Dr. W. J. Walke, British physicist working at the Radiation Laboratory of the University of California. (*Nature*, Oct. 26)

Dr. Walke's argument is that if the earth had been bombarded, throughout its existence, by a cosmic radiation whose electrical charge is predominantly positive, it would gradually have acquired a high positive potential. It should, therefore, by now have reached a point where its high positive charge would repel the positive components even of the powerful cosmic radiation; at the same time it would strongly attract the negative components, so that the net result would be an eventual decrease of the earth's potential until the reaching of a point of equilibrium—with equal numbers of positively and negatively charged rays coming to the earth.

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PALEONTOLOGY

Crazy Mountain Region Once Had Weird Population

WEIRD animals lived on the plains of Montana, in days so long ago that the grasses now dominant on these great spaces, were only a struggling minor botanical family. In this world of seventy million years ago there were no animals that even remotely suggest the modern mammals ancestrally, though some of them had habits like those of present-day types.

Studies now being conducted by Dr. George Gaylord Simpson, paleontologist of the American Museum of Natural History, have already turned up more than sixty species of this strange fauna, in Smithsonian Institution collections made by the late Dr. James W. Gidley in the Crazy Mountain region of Montana. They range all the way from squirrel-sized creatures regarded as distant relatives of the great family of primates of which men and monkeys are members, to creatures called for convenience bear-dogs, though they were not ancestral to either. These latter beasts apparently were carrion-feeders, with hyena-like habits. The collection also includes some very primitive early forms of hoofed animals.

The epoch in which these creatures lived is known as the paleocene. It came after the dinosaurs had vanished, and constituted a sort of prelude in time to the great Age of Mammals.

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SEISMOLOGY

West Indian Earthquake Had Submarine Epicenter

THE WEST Indies earthquake on Nov. 10, that caused property damage on the islands of Antigua and Montserrat, centered under the sea about forty miles southwest of Antigua. Seismologists of the U. S. Coast and Geodetic Survey determined the epicenter, after examining telegraphic reports gathered by Science Service. The exact location was in latitude 16.7 degrees north, longitude 62.2 degrees west; time of origin was 1:27.5 p. m., Eastern Standard Time.

Stations reporting were those of the Jesuit Seismological Association at St. Louis University, St. Louis, Mo.; Georgetown University, Washington, D. C.; Canisius College, Buffalo, N. Y.; the University of Wisconsin, Madison, Wis.; and the Philippine Observatory, Manila, P. I.

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