



ISLAND LORAN STATIONS—Four more Loran stations have been installed in the Far East area of the Pacific to aid navigation by airplanes and ships. Shown here, in the early stages of construction, is one of them, the new Coast Guard transmitting station on Bataan Island. The stations can transmit their signals over an area of 750 miles by day and 1,400 miles by night.

ENTOMOLOGY

Tree Damage Record

► **GYPSY MOTH** caterpillars ate the leaves off 1,500,000 acres of trees in New England this year, setting a new record for defoliation.

This was more than double the defoliation in the previous record outbreaks of 1945 and 1937 when about 600,000 acres of trees were damaged.

E. D. Burgess of the Bureau of Entomology and Plant Quarantine of the U. S. Department of Agriculture reported that outbreaks of the gypsy moth, *Porthetria dispar*, seem to run in eight-year cycles. No reason has been advanced to explain why the defoliation this year is so much greater than other peak years.

Defoliation must continue for several seasons normally before trees are killed. Mr. Burgess pointed out there is evidence that partial defoliation retards the growth of trees.

Hardwood trees suffer the most during a moth attack, since normal spraying operations in orchards have eliminated the gypsy moth as a fruit pest. DDT is extremely effective in controlling and eradicating the moth, and 186,000 acres were sprayed this year to prevent the spread of the pest.

Mr. Burgess said that the moth was imported into the country in 1866 and the

federal government devotes most of its control efforts to confining the moth to the New England area.

Preliminary surveys this fall indicate that next year may also see a big outbreak. Parts of all New England states and the eastern edge of New York are troubled by the moth. Massachusetts received the heaviest damage this year.

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PUBLIC SAFETY

Chest-Type Safety Belt May Reduce Injuries

► A **SAFETY** belt that fits across your chest has been developed by Dr. John Mathewson and Derwyn Severy of the University of California at Los Angeles.

It has shown promise in preliminary tests of eliminating a major source of traffic injuries, resulting from passengers being tossed about inside an automobile when it crashes or being thrown outside.

The research has demonstrated that the new safety belt effectively restrained a very life-like dummy in test crashes against a barrier of telephone poles.

Science News Letter, December 5, 1953

TECHNOLOGY

Better Seafood Possible With New Fishing Boat

► **FRESHER, BETTER** tasting seafood may be in store for the American housewife by freezing whole fish at sea for later processing.

C. G. P. Oldershaw of the U. S. Fish and Wildlife Service Boston technical laboratory described experiments with fish freezing at sea at the second session of the first world congress on fishing boat design held in Miami, Fla.

The fishing industry has always been handicapped by the fact that the time fish spend iced on boats limits their later distribution on land. Spoilage at sea has also limited the length of time trawlers could spend away from port.

Mr. Oldershaw reported that the trawler Delaware has been altered to permit freezing at sea. The fish are sorted according to size and species after catching and then frozen in a vat of brine kept at five degrees Fahrenheit. Depending on the size of the fish, this takes from one to three hours. The frozen fish are then stored in cold rooms kept at zero Fahrenheit. After unloading in port, the fish are thawed, cleaned and prepared for distribution.

The trawler has a capacity of 130,000 pounds of frozen fish and 15,000 pounds of headed, iced fish.

The Fish and Wildlife Service is attempting to determine methods for freezing at sea and its economic feasibility. Mr. Oldershaw's report covered only the methods and equipment. The congress was sponsored by the Food and Agriculture Organization of the United Nations.

Science News Letter, December 5, 1953

TECHNOLOGY

Construct World's First Atomic Power Station

See Front Cover

► **THE WORLD'S** first atomic power station under construction is now being built in Cumberland, England. Scheduled for completion in about a year and a half, the experimental station is expected to have an output of about 50,000 watts.

A scale model of the new power station is shown on the cover of this week's **SCIENCE NEWS LETTER**. The large low building is the turbine house. On each side of it are the two reactors, where the heat is generated in graphite-moderated uranium piles. This heat is then transferred by gas to the four vertical boilers around each reactor.

Fans situated in the low wings on each side of the reactor circulate the gas. The steam passes to the turbine house where it drives four turbo-alternator sets. The four towers shown at the right are for cooling the turbine condensers.

Science News Letter, December 5, 1953