

PUBLIC HEALTH

Anthrax, Gasoline Poisoning Seen as Health Hazards

ANTHRAX is definitely on the increase among agricultural workers in this country and is a definite menace in the wool industry in several manufacturing areas, Dr. Henry F. Smyth of the University of Pennsylvania reported to the American Public Health Association in Pasadena, Calif. The death rate for this disease, except in a few states, shows no tendency to decline, the committee of which Dr. Smyth is chairman found in studying the anthrax situation during the past five years. The best method of treating the disease is by large doses of anti-anthrax serum applied locally and injected into the veins. This treatment must be kept up until definite improvement is evident.

The increasing number of deaths from anthrax is due in part to its increase among agricultural workers where the serum is not available. Wool and wool clothing are frequently sources of this infection. Machinery in a textile mill may become infected and

transmit the infection to subsequent materials.

A distinct hazard to both acute and chronic poisoning from gasoline and benzene exists in the petroleum industry, Dr. Smyth reported. These substances act as narcotic poisons and produce injuries to the nerves in chronic cases.

Treatment with calcium, the substance which gives bones their hardness, is the "sheet anchor" in cases of carbon tetrachloride poisoning, the committee found on investigation of this industrial hazard. Carbon tetrachloride is the chief ingredient of many cleaning solutions.

However, because it is used as one of several ingredients in certain mixtures, it has often been unjustly blamed for causing harm when some of the other ingredients in the mixture have probably been the real cause of the poisoning, in the opinion of the committee.

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PSYCHOLOGY

Gland Treatment Rescues Infant's Intelligence

THE CASE of a child who at two years had the mental age of an infant of less than seven months, or an intelligence quotient of only 28, but who while being fed pituitary gland extract gained in mental ability until at five and a half years it equalled children nearly six years old and had an I.Q. of 103, was reported to the American Psychological Association by Dr. Florence Mateer, director of the Merryheart Schools, Columbus, Ohio.

For 34 children under treatment at Merryheart for diseased pituitary glands, the gain under pituitary feeding has been from 5 to 22 points in intelligence quotient in a year, the gain continuing throughout the period of study, Dr. Mateer reported.

"In general, the younger children improve more, and more rapidly," Dr.

Mateer said. "A child of seven or eight may well be expected to gain 20 to 22 months on the Stanford-Binet scale in the school year, with a consequent jump of intelligence quotient of as many as 12 to 14 points in the year."

In a group of 19 Mongoloid idiots, 7 were found who showed symptoms of pituitary disturbance. These have been given feedings of the gland, and have been gaining in intelligence throughout the period of treatment. Five have now reached intelligence quotients of over 78 and one of these now scores 103. A score of 100 is taken as normal.

These promising results have been obtained despite the very complicated nature of the disease. One investigator quoted by Dr. Mateer has estimated that there are at least 8 pituitary hormones

with three functional conditions of each. This makes possible at least 6,500 variations of the gland's activity. The picture is further complicated by the body's reported ability to develop an anti-hormone which prevents the influence of the hormone when artificially taken into the body.

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MARINE ENGINEERING

Slow Motion Ship-Launching

THE SLIDING down the ways of the giant new Cunarder *Queen Mary* at Clydebank, Scotland, was ship-launching in slow motion. So huge was the vessel that the available deep water in the neighboring Clyde River and the River Cart was only just enough to float the boat. The *Queen Mary* had to be "eased" down the ways rather than allowed to slide in formal fashion.

Ways Almost Level

Launching ways, as everyone realizes, are but inclined planes. For the new liner the incline was so small as to be almost level. As *Queen Mary* pushed the button releasing the launching mechanism there was no rush of the boat toward the water. Instead four giant hydraulic rams went into action and provided the initial push. Then slowly, with smoking grease from the ways, the vessel slipped gently into the water. Ten minutes, a very long period of time for such an operation, was needed to launch the ship.

Like a lumbering giant chained by a race of lilliputian men the huge hull was slowed up still further by eighteen great chains dragging along the ground. Each weighed 1,000 tons.

Once in the water twenty puffing Clyde tugs pressed against the *Queen Mary's* sides and stayed her speed even though it was but little more than a normal walk; six miles an hour.

Potential Disaster

To the thousands of visiting spectators the launching was a thrill, but one wreathed in all manner of dire rumors of potential disaster. To the shipbuilders at the John Brown shipyard, however, the *Queen Mary* was but another of the giant vessels which have been "born" on this site.

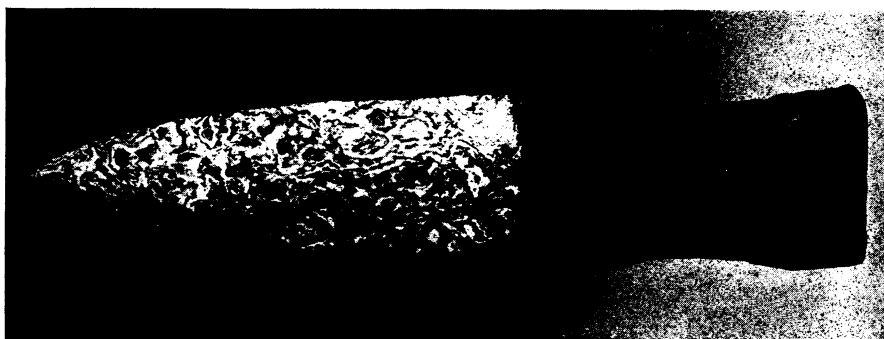
At this place the *Aquitania*, the *H. M. S. Hood* and the *Empress of Britain* have been launched. The dread-

naught *Hood*, in fact, was a bigger job than the launching of the *Queen Mary*. While not so long, the warship was much heavier.

All the work with huge ships has meant that the ground under the ways of John Brown shipyard is thoroughly compressed. There was a possibility but little danger that the ground might sink a fraction of an inch during the launching and turn a thrilling event into a tragic disaster.

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When sweet corn is kept in storage, the loss of sugar is about four times as fast at 50 degrees F. as at 32 degrees.



WASHED UP BY THE SEA

This dagger, with handle worn by the grasping hand of some Indian brave, was dropped from a canoe in an unchronicled past, to be washed up again by unusually high waves near Long Beach, California.

ARCHAEOLOGY

Mysterious Ocean Waves Wash Up Indian Dagger

Rare and Beautiful Specimen is Picked Up By Man Strolling on Beach in Southern California

By M. R. HARRINGTON, Curator, Southwest Museum

MYSTERIOUS great waves which have been lashing the coasts of Southern California for the last few weeks have caused great damage to seaside property, but from the standpoint of the Southwest Museum they are not entirely instruments of evil. Thanks to these waves the Museum's Californian Indian collection has been enriched by a very rare and beautiful specimen, a large flint dagger, still equipped with its original wooden handle. This was found on the spit of land lying between Encinitas Bay and the Pacific Ocean, near Long Beach, California, after a particularly heavy assault of the surf.

Found on the Beach

The finder, Dale Shamp, spending his vacation at the shore with his family, was strolling on the beach when he spied the dagger. Although he knew little of archaeology, he realized he had found something out of the ordinary, that belonged in a museum, and he lost no time in taking it there.

The dagger measures, over all, some ten and a quarter inches, of which the wooden handle occupies a little more than four. The blade, skillfully chipped of beautifully mottled gray chert, is two inches wide, and is fastened to the han-

dle with asphaltum. On both sides of the handle may still be seen traces of an inlaid X-shaped pattern, made of tiny white shell beads set in asphaltum.

The dagger probably dates from before the coming of the Spaniards to California. It was probably lost overboard from a canoe and lay buried in the mud of the ocean bottom for centuries, only to be dislodged at last by the unprecedented heavy surf. Preservation of the wooden handle was doubtless due to the mud in which it lay. Many wooden relics of ancient pile villages have been similarly preserved in mud of the Swiss Lakes.

As in the case of the Swiss specimens, the dagger handle showed a tendency to warp and crack as it dried, and it was necessary to soak it many hours in dilute shellac before it could be safely prepared for exhibition.

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PHYSICS

Details of Marconi Radio Fog Beacon Explained

THE working principles of the fog navigation radio beacon device invented by Marchese Guglielmo Marconi are now known. Recent press reports of the invention were so fragmentary that scientists in England and America could

not determine the mode of operation and weigh the system's value.

To picture the application of the radio transmission one may think in analogy of twin searchlights on a single mounting with a dark zone between the two beams in the center, reports Commander E. C. Shankland to the British journal, *Nature*.

A Silent Zone

Each of the two radio beams, right and left, have distinctive characteristics. Using a sixty centimeter (two feet) long wave as the carrier signal, the right-hand beam sends out signals varying 500 cycles a second. On earphones this frequency sounds like a low-pitched note.

The left-hand beam transmits a 1,500 cycle note, of much higher pitch than its companion. By having the two notes in exactly opposite phase a zone of silence, where the two notes cancel out, is achieved in a central zone between them. This silent zone at a distance of ten miles produces a zone of silence over 355 yards.

Sweeps Like a Searchlight

"To have such a signal fixed in position," Commander Shankland declares, "would be unsatisfactory, as a navigator might assume he was in the silent zone when a breakdown had occurred and the transmitter was not functioning. To guide the ship safely, therefore, the system is continuously swung from left to right of the center line in a manner similar to a searchlight when looking for an object on the water.

"When swinging to the left the beacon sounds a high note, when swinging towards the right it sounds a low note. The change of note takes place when the zone of silence coincides with the line of the entrance of the harbor."

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