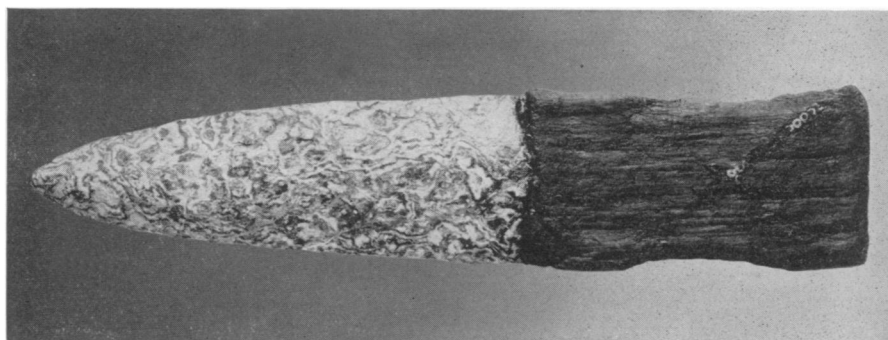


naught *Hood*, in fact, was a bigger job than the launching of the *Queen Mary*. While not so long, the warship was much heavier.

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.

Science News Letter, October 6, 1934

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.

Science News Letter, October 6, 1934

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."

Science News Letter, October 6, 1934