



GENUINE RELIC

Chemical tests show that this is genuine Drake Plate. Hole in corner fits Elizabethan sixpence.

MEDICINE

Aviation Medicine Laboratory Opened at Mayo Clinic

THE MAYO CLINIC, mecca for medical men and the ill, is adding to its tremendous research facilities an aviation medicine laboratory to study problems brought in the train of the air age.

A low-pressure tank simulating conditions at high altitudes, similar to the Army's tank at Wright Field, O., is now being installed in a new Laboratory for Metabolic Investigation and Aero-Medical Research. Both the Army and Navy are expected to cooperate with the Clinic's new research unit.

The laboratory will be in the charge of Dr. Walter M. Boothby, who with Drs. A. L. Bulbulian and W. Randolph Lovelace, II, invented the Clinic's most recent contribution to flying—the B.L.B. inhalator, an oxygen mask for use at high altitudes where the air is too thin to keep human beings functioning properly.

Effects of high altitude on the human body, and of rapid climbing and descent—both encountered in military flying, for example—are to be investigated by Dr. Boothby and his associates.

The effect of low atmospheric pressure on the human body, when oxygen is being taken through a mask, is also to be studied. At 18,000 feet, for example, the pressure is only seven and a half pounds per square inch instead of 15 pounds as at sea level. It is suspected that gases breathed in through the mask may diffuse more readily under the high altitude conditions.

Use of helium in a mixture with the oxygen to enable more rapid descent without producing earaches is also to be studied. Already tried with considerable success, helium's relieving effect is believed due to the fact that the light gas diffuses through the Eustachian tubes to the inside of the ears much more rapidly than air, with the result that pressure inside and outside the ear is equalized. It is this difference in pressure which pains the eardrums.

Dr. Lovelace is now en route to Europe on a two or three month trip financed by an I. William White traveling fellowship. He will study European aero-medical research activities.

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CHEMISTRY

Tests Prove Brass Plate Genuine Relic of Drake

SIR Francis Drake's famous plate of brass, on which he claimed the California coast as a kingdom for England, has definitely been found, according to the result of six chemical tests given to the piece of now-battered metal.

The tests close a heated controversy as to whether or not a brass plate picked up on the California shore, several years ago, is an historic American document or a hoax. Prof. Colin G. Fink and E. P. Polushkin of Columbia University Electrochemical Laboratories put the engraved metal object through a series of tests at request of the California Historical Society.

They declare in a published report, "it is our opinion that the brass plate examined by us is the genuine Drake Plate referred to in the book, 'The World Encompassed' by Sir Francis Drake, published in 1628."

Chemical tests show dark coating on the surface to be natural patina, formed slowly through many years. Bits of mineralized plant tissue were detected, another sign of age. Composition of the brass and the hammering it underwent fit the Drake era. A ragged hole was tested to see whether it might have taken insertion of an Elizabethan sixpence, such as Drake used to introduce Queen Elizabeth's image and device on the brass record. It very well might. Drake in claiming the land for his queen called it New Albion.

Science News Letter, May 6, 1939

AERONAUTICS

Canada Is to Build Air Research Station

THE DOMINION Government, acting through the Committee of the Privy Council on Scientific and Industrial Research, has acquired the site for an aeronautical research laboratory the government will build adjoining the Ottawa-Rockcliffe airfield, W. D. Euler, chairman of the committee, announced.

A hundred acres for expansion of the National Research Council's present laboratories and for conducting outdoor tests, for which no facilities at present exist, have been acquired. The total cost of the new research plant will come to \$1,459,895 and will extend over a two-year period. Present work is being carried out in the Research Council's laboratory annex in Ottawa.

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